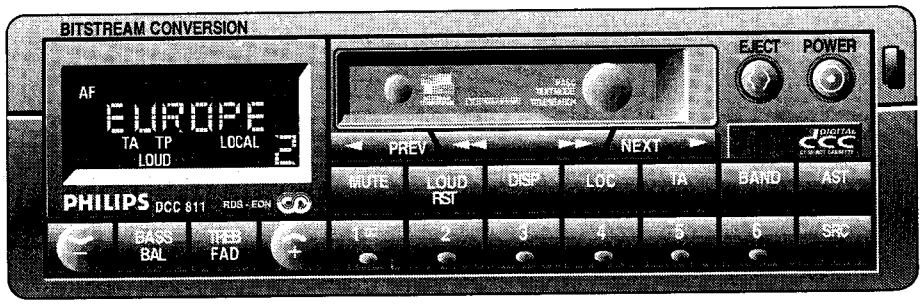
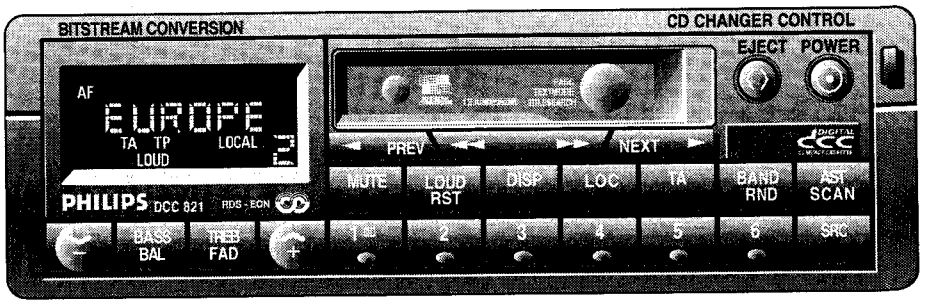
DCCassette Car Radio 22 DC 811/00R
22 DC 821/00R

Service
Service
Service

Service Manual

12 V





DIGITAL dcc COMPACT CASSETTE

Published by Philips Car Systems Printed in The Netherlands

4822 725 23515

PHILIPS

PCS 72 056

CONTENTS

TECHNICAL DATA

GENERAL

Power supply:	14,4 V
Quiescent current:	< 2.0 mA
Playback current:	2,8 A (4x5 W)

TUNER

FM	87.5 - 108 MHz	grid: 100 kHz search, 100 kHz manual
MW	531 - 1611 kHz (565 - 186 m)	grid: 9 kHz search, 1 kHz manual
LW	144 - 288 kHz (2083 - 1042 m)	grid: 9 kHz search, 9 kHz manual
SW	5.95 - 6.2 MHz (50.4 - 48.4 m)	grid: 5 kHz search, 5 kHz manual

Presets: 6 FM1, 6 FM2, 6 FM-AST, 6 SW, 6 MW, 6 LW

Sensitivity 26 dB S/N:	FM: 4 µV
	SW: 28 µV
	MW: 28 µV
	LW: 56 µV
IF (FM / AM):	10.7 MHz

COMPACT CASSETTE

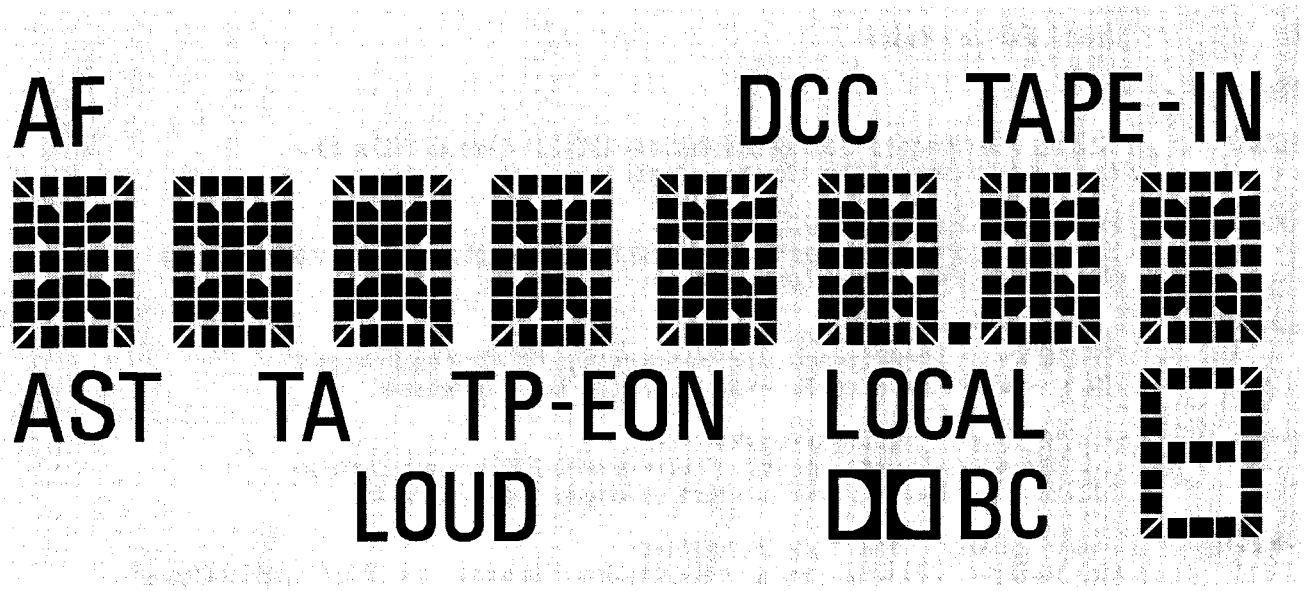
Number of tracks:	2x2
Tape speed:	4,75 cm/s
Winding time:	100 s (C60)
Frequency response:	40 - 14.000 Hz
Wow and flutter:	0.2% (IEC 386 / DIN 45507)
S/N ratio (DOLBY OFF):	FE: 48 dB (weighted)
	CR: 53 dB (weighted)

AMPLIFIER

Output:	4 x 4.5 W sinus (at 10% THD)
Bass:	+/- 12 dB (100 Hz), 2 dB steps
Treble:	+/- 12 dB (10 KHz), 2 dB steps
Channel separation:	> 30 dB
Telefonmute:	> -40 dB

CONTROLS

▮	Retrac handle release
POWER ⊙	set on/off
EJECT <>	*Short press:* Changes the play direction of a DCC or Compact Cassette *Long press:* Ejects DCC or Compact Cassette
NEXT ►►	*Radio operation:* Search tuning upwards *DCC/Compact Cassette operation:* Selects next tracks of a DCC/Compact Cassette *CD operation:* Next track of actual disc
►►	*Radio operation:* Manual tuning upwards *DCC/Compact Cassette operation:* Fast winding DCC/Compact Cassette *CD operation:* Fast forward playback as long as key is depressed
◄◄	*Radio operation:* Manual tuning downwards *DCC/Compact Cassette operation:* Fast rewind DCC/Compact Cassette *CD operation:* Fast backward playback as long as key is depressed
◄◄ **PREV**	*Radio operation:* Search tuning downwards *DCC/Compact Cassette operation:* Selects previous tracks of a DCC/Compact Cassette *CD operation:* Previous track of actual disc
⌄	Volume, Bass or Treble down; Balance to left; Fader to rear
⌃	Volume, Bass or Treble up; Balance to right; Fader to front
BASS **BAL**	Bass/Balance selector
TREB **FAD**	Treble/Fader selector
MUTE	Audio Mute; interrupts playback of DCC, Compact Cassette or CD (pause)
1□□ ... **6**	*Radio operation:* Station presets *CD operation:* Disc selection
1□□	Dolby Noise Reduction B or C type (only for Compact Cassette)
LOUD **RST**	*Short press:* Loudness *Long press:* Audio reset
DISP	*Radio operation:* Shows the frequency and the selected wave band instead of the station-name *DCC operation:* Selects the DCC text mode (only with pre-recorded DCC's) *CD operation:* Shows total number of tracks and total play time of actual disc
LOC	Selector for strong (local) stations
TA	*Short press:* Traffic information/announcement *Long press:* Skips a traffic message
BAND **RND**	*Radio operation:* Selects the desired wave band (FM1, FM2, FM3, MW, LW, SW) *CD operation:* Random track selection of actual disc *Long press:* Enters the 'INIT' mode
AST **SCAN**	*Radio operation:* Auto-Store to program the six strongest stations of the current reception area *CD operation:* 10 sec.- playback of each track of actual disc
SRC	Selects source (Radio, DCC/Compact Cassette or CD-Changer)



DISPLAY INDICATIONS

AF	Tuned station broadcasts RDS information with Alternative Frequencies
DCC	A Digital Compact Cassette is in the cassette deck
TAPE-IN	A Compact Cassette is in the cassette deck
	Radio operation: Preset station (1 out of 6) is selected *DCC/Compact Cassette operation:* Indicates side A or B of the DCC/Compact Cassette
LOCAL	Searches for strong (local) stations only
	Dolby Noise Reduction B or C is switched on (only Compact Cassette)
TP	Traffic Program: Indicates that the station broadcasts traffic information
TP-EON	A Traffic message is received via Enhanced Other Networks
LOUD	Loudness is switched on
TA	Traffic Announcement mode is switched on
	Radio operation: Wave band and frequency or (FM only) the station name Audio adjustment: Shows the current settings of Bass, Balance, Treble or Fader DCC operation: Shows track number and elapsed time or text mode(only prerecorded DCC's) INIT mode: Shows initialization parameters and their settings
AST	Auto-Store band chosen (on FM3)

INIT MODE

Select INIT MODE by pressing the BAND key for at least 3 seconds, until a bleep is heard.

The following parameters can be changed when the set is in INIT MODE:

1. Illumination colour
After entering INIT MODE, the display shows 'COLOR'.
Toggle between 'green' or 'orange' colour with the ⩔/ ⩒keys.

2. Viewing angle
After entering INIT MODE, select the 'VIEW' parameter with the ◄PREV or NEXT► keys.
The display should show 'VIEW 0'.
Select the viewing angle between -1 and 2 with the ⩔/ ⩒keys for best legibility of the display.

3. AF mode
After entering INIT MODE, select the 'AF' parameter with the ◄PREV' or NEXT► keys.
The display should show e.g. 'AF ON'.
Select between 'AF ON' or 'AF OFF' with the ⩔ or ⩒ keys.

If you want to store an RDS station without automatic retuning, you have to do the following:
Tune to the desired station.
After entering INIT MODE, select 'AF OFF'.
Leave the INIT MODE (see below) and store this station.

4. AM wave bands on/off
If you don't want to use the AM wave bands (MW, LW and SW), those bands can be switched off.
After entering INIT MODE, select the 'AM' parameter with the ◄PREV or NEXT► keys.
The display should show e.g. 'AM ON'.
Select between 'AM ON' and 'AM OFF' with the ⩔ or ⩒ keys.
When you select 'AM OFF', you can choose only between FM1, FM2 and FM3.

To leave the INIT MODE, press briefly the BAND key.

The INIT MODE will be left automatically, when no keys are depressed within 10 seconds.

NOTE: For informations about how to use the set see the 'Operating Instructions'.

NOTE: The handling of flat pack IC's is described in Service Information A86-100, dated 1986-07-01.

NOTE: Switch off power supply before connecting or disconnecting the cassette deck.

NOTE: Extension cables for front unit and cassette deck are NOT available as serviceparts.
You can build these by using the coded sockets and plugs.

NOTE: Single buttons of the ornamental plate are NOT available.
If there is an absolute need for single buttons you can take apart a complete delivered plate.

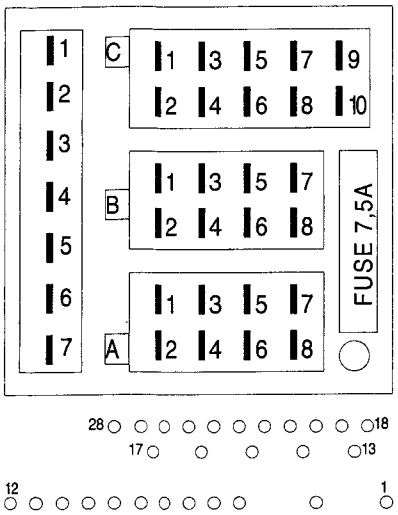
NOTE: For more information about the RDS feature use the 'computer based training course RDS' which is available at Philips Consumer Service.

Contact:

Philips Consumer Electronics
Philips International Support Centre
Building SBP6
NL 5600 MD Eindhoven

tlx routing indicator: NLMEVAB
FAX: + 31 40 73 35 53

CONNECTORBLOCK 22DC811+22DC821



D1: SWITCHED +	> 5	D5: LINE OUT RR	> 9
D2: REMOTE RETURN	> 12	D6: LINE OUT FL	> 10
D3: SIGNAL GND	> 7	D7: LINE OUT RL	> 11
D4: LINE OUT FR	> 8		
C1: GND	> 28	C6: GND	> 6
C2: D2B+ (DC821)	> 27	C7: SWITCHED +	> 16
C3: D2B- (DC821)	> 23	C8: EXT.IN R (DC821)	> 26
C4: NC		C9: EXT.IN L (DC821)	> 3
C5: PERM.+	> 17	C10: EXT.IN GND (DC821)	> 25
B1: RR+	> 22	B5: FL+	> 13
B2: RR-	> 24	B6: FL-	> 19
B3: FR+	> 21	B7: RL+	> 19
B4: FR-	> 22	B8: RL-	> 14
A1: TEL.MUTE	> 15	A5: SWITCHED +	> 5
A2: GND	> 18	A6: EXT.ILL.	> 2
A3: NC		A7: IGN.KEY+ (FUSE)	> 1
A4: PERM.+	> 4	A8: GND	> 18

Key- and Display-test, Romcode version front µC

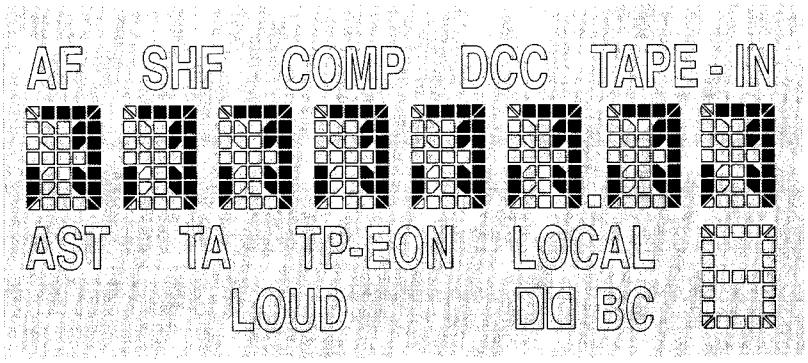
- Separate the front unit assy from the set.
- Connector 1801: connect pin 1 + 10 to ground and pin 4 to 5 V - Display shows 'KEY TEST'.

Key-test
When pushing the buttons the concerned indication must be displayed.

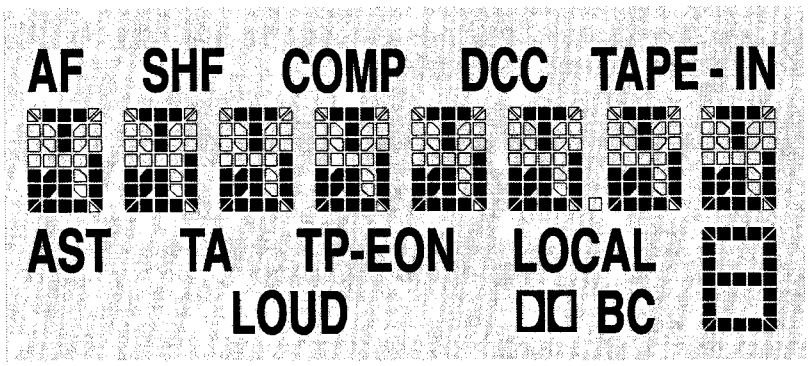
Display-test
- Hold preset 1 - figure Preset 1 must be displayed
- Hold preset 2 - all display-segments are blanked
- Hold preset 3 - figure Preset 2 must be displayed

Romcode version
- Hold preset 4 - the software version of the front µC must be displayed (e.g. RC 04)

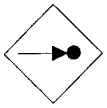
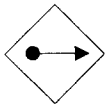
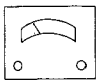
Preset 1



Preset 3



Checks 22DC811 + 22DC821

Check	Band					
Varicap-voltage	AM			144 KHz	IC 7251 PIN 15	> 2,2 V
				6200 KHz		< 6,0 V
	FM			87,5 MHz	FM 1008 PIN 15	> 1,0 V
				108 MHz		< 6,0 V
Demodulated AM - level	AM	990 KHz, 10 mV 1 KHz, 30% AM			IC 7201 PIN 12	350 +/- 100 mV
Demodulated FM - level	FM	93,0 MHz, 1 mV Δ f = 22,5 KHz f mod = 1 KHz			FM 1008 PIN 2	160 mV
		93,0 MHz, 1 mV Δ f = 6,75 KHz f mod = 19 KHz				45 mV
		93,0 MHz, 1 mV Δ f = 3,75 KHz f mod = 57 KHz				20 mV
S/N ratio	FM	93,0 MHz, 1 mV Δ f = 22,5 KHz f mod = 1 KHz			Connectorblock Section B PIN 3 + PIN 5	1,4 V => Referencelevel (dB)
		93,0 MHz, 1 mV Δ f = 22,5 KHz unmodulated				Referencelevel > - 50 dB
	AM	990 KHz, 2mV 30 % mod., 1KHz				1,4 V => Referencelevel (dB)
		990 KHz, 2mV unmodulated				Referencelevel > - 48 dB
Wide band AGC switch	AM	990 KHz, 2mV without modulation			IC 7201 PIN 1	V1 ~ 6,5 V
		990 KHz, 200mV without modulation				V2 ~ 7,0 V (V2 - V1 > 0,5 V)
FM - search - sensitivity	FM	94,1 MHz, 160 µV Δ f = 22,5 KHz f mod = 1 KHz		LO - Search tuning		tuning stop after 2. run
		94,1 MHz, 250 µV Δ f = 22,5 KHz f mod = 1 KHz		LO - Search tuning		tuning stop after 1. run
		94,1 MHz, 4 µV Δ f = 22,5 KHz f mod = 1 KHz		DX - Search tuning		no tuning stop
		94,1 MHz, 10 µV Δ f = 22,5 KHz f mod = 1 KHz		DX - Search tuning		tuning stop after 1. run
AM - search-sensitivity	AM	990 KHz, 240 µV 1 KHz, 30% AM		LO - Search tuning		tuning stop after 2. run
		990 KHz, 370 µV 1 KHz, 30% AM		LO - Search tuning		tuning stop after 1. run
		990 KHz, 22 µV 1 KHz, 30% AM		DX - Search tuning		no tuning stop
		990 KHz, 50 µV 1 KHz, 30% AM		DX - Search tuning		tuning stop after 1. run

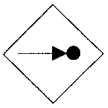
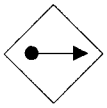
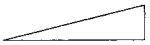
CHECK LOW VOLTAGE CONTROL CIRCUIT

1: Supply voltage 14.4 V
Set switched on
Pos. 7701, pin 7 = 4.7 V +/- 400 mV

2: Supply voltage 8.3 V +/- 900 mV
Set switches off automatically
Pos. 7701, pin 7 = 0.5 V +/- 500 mV

3: Supply voltage 14.4 V
Set switches on
Pos. 7701, pin 7 = 4.7 V +/- 400 mV

Adjustments 22DC811 + 22DC821

Adjustment	Band					
α - 3 dB	FM	94,1 MHz, 1 mV Δ f = 22,5 KHz f mod = 1 KHz			Connectorblock Section B PIN 3 + PIN 5	1,4 V => Referencelevel (dB)
		94,1 MHz, 7 µV Δ f = 22,5 KHz f mod = 1 KHz		R 3105		Referencelevel - 3 dB
10 dB Channel-separation	FM	94,1 MHz, 120 µV Δ f = 22,5 KHz f mod = 1 KHz (right channel only) Stereo-Pilot 10%		R 3630	Connectorblock Section B PIN 3 <-> PIN 5	10 dB (+/- 1 dB)
Channel - separation maximum	FM	94,1 MHz, 10 mV Δ f = 22,5 KHz f mod = 1 KHz (right channel only) Stereo-Pilot 10%		R 3608	Connectorblock Section B PIN 3 <-> PIN 5	max. (ca. 34 dB)
Check α - 3 dB again and adjust if necessary						
Noise - detector	FM	98,0 MHz, 1 mV Δ f = 75 KHz f mod = 40 KHz		R 3426	IC 7420 PIN 14	850 +/- 50 mV (AC)

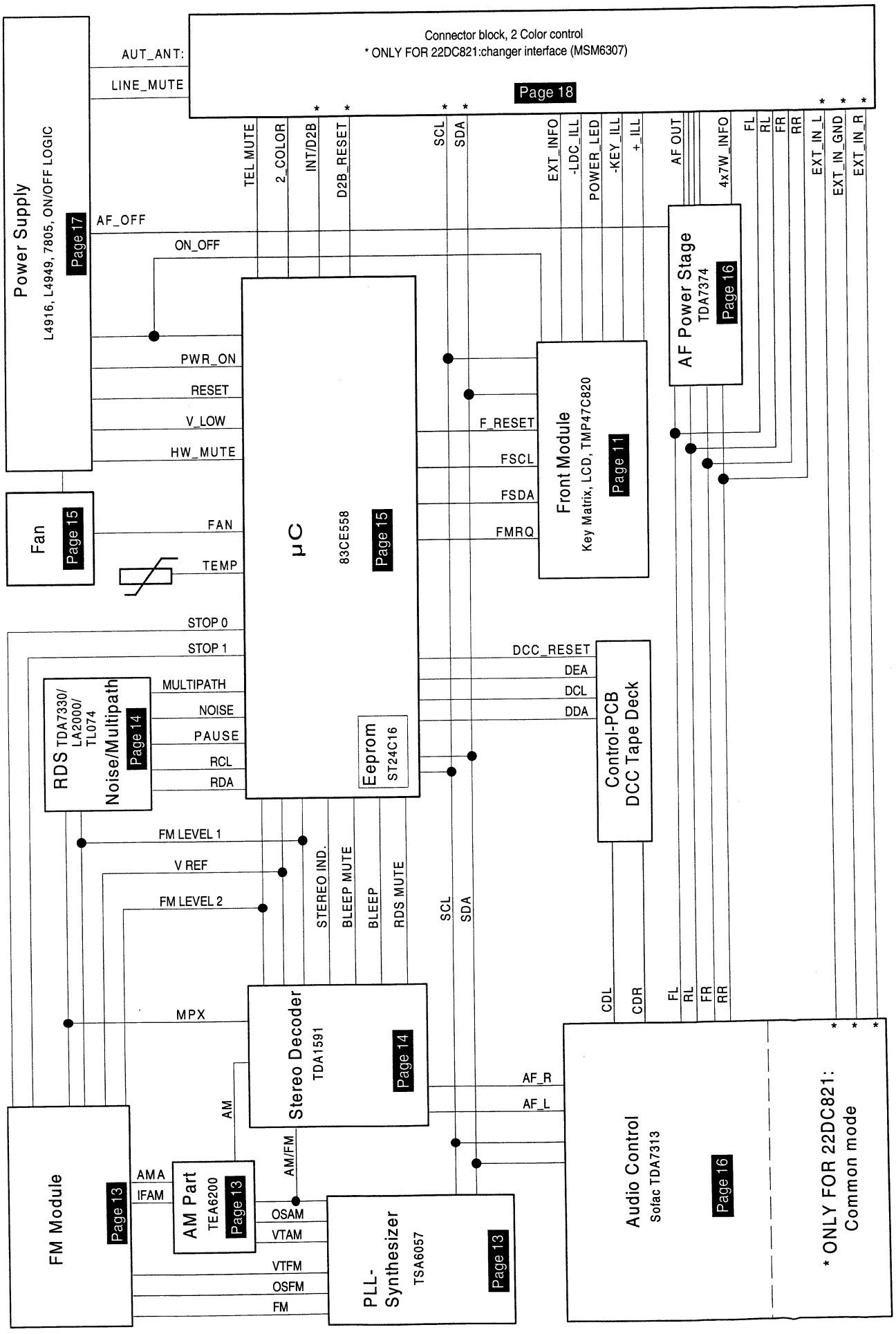
Do not adjust coils 5210 and 5228 (AM-PART), because they are correctly preadjusted by supplier !

! NOTE

FM- and AM- search sensitivities are only adjustable with a special equipment via software.
If you get sets with search sensitivities out of specification, send them to factory-service in Wetzlar until further notice.

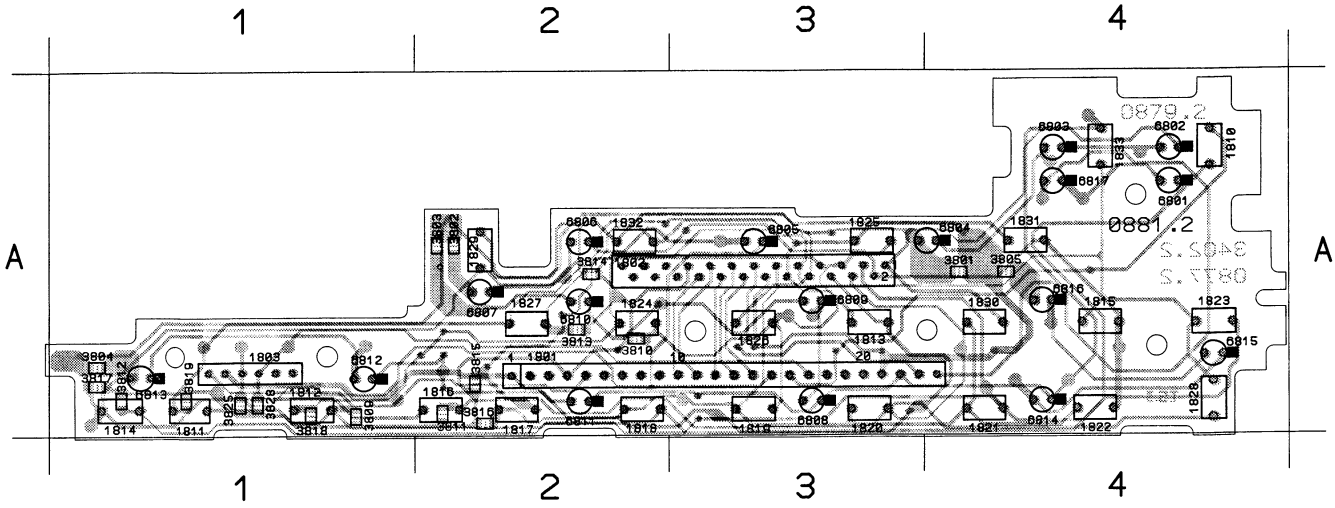
Philips Apparatefabrik Wetzlar
Department SP-CS
Philipsstrasse 1
D - 35576 Wetzlar
GERMANY

WIRING DIAGRAM 22DC811 + 22DC821



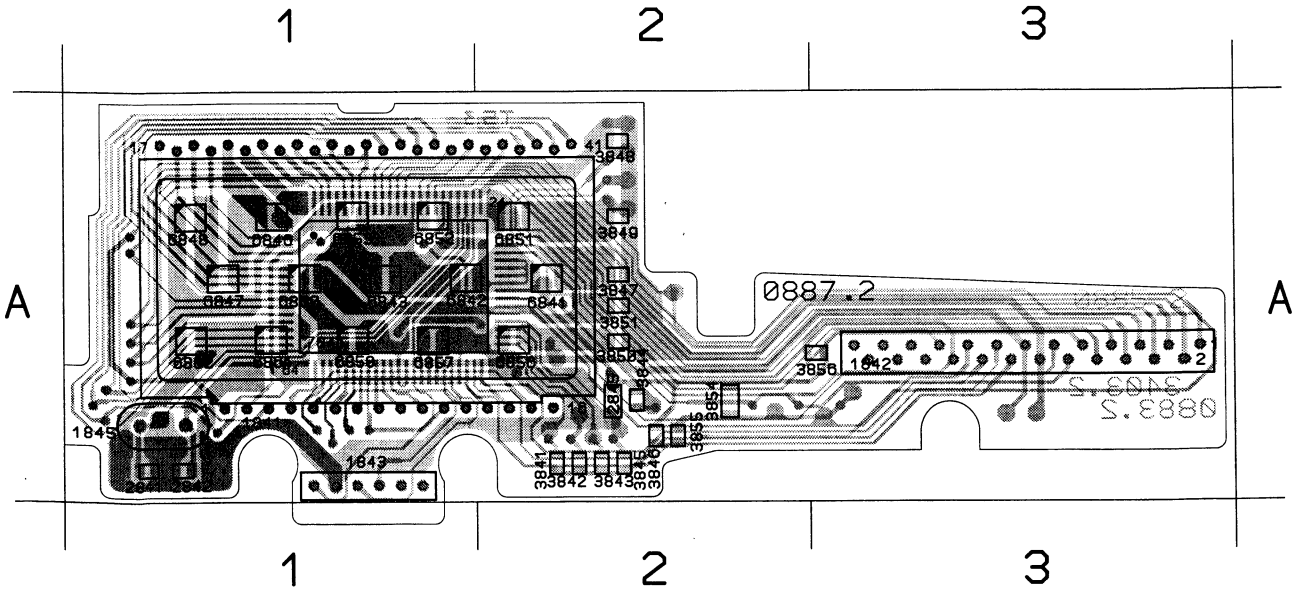
SWITCH PWB

1801 A 3	1812 A 1	1817 A 2	1822 A 4	1827 A 2	1832 A 2	3804 A 1	3812 A 1	3817 A 1	6801 A 4	6806 A 2	6811 A 2	6816 A 4
1802 A 3	1813 A 3	1818 A 2	1823 A 4	1828 A 4	1833 A 4	3805 A 4	3813 A 2	3818 A 1	6802 A 4	6807 A 2	6812 A 1	6817 A 4
1803 A 1	1814 A 1	1819 A 3	1824 A 2	1829 A 2	3801 A 4	3809 A 1	3814 A 2	3819 A 1	6803 A 4	6808 A 3	6813 A 1	
1810 A 4	1815 A 4	1820 A 3	1825 A 3	1830 A 4	3802 A 2	3810 A 2	3815 A 2	3825 A 1	6804 A 4	6809 A 3	6814 A 4	
1811 A 1	1816 A 2	1821 A 4	1826 A 3	1831 A 4	3803 A 2	3811 A 2	3816 A 2	3828 A 1	6805 A 3	6810 A 2	6815 A 4	

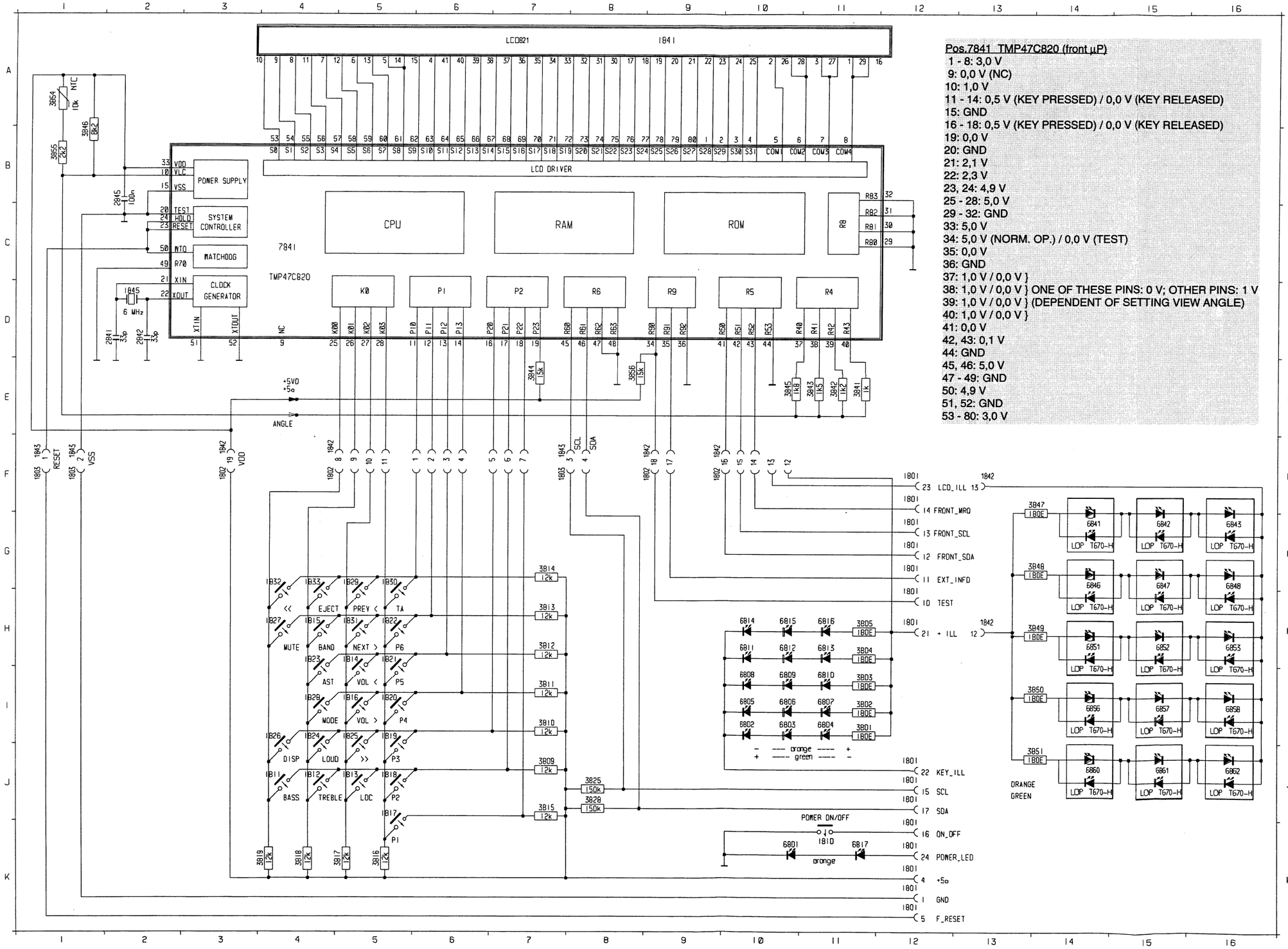


LCD PWB

1841 A 1	2841 A 1	3842 A 2	3846 A 2	3850 A 2	3856 A 3	6846 A 1	6852 A 1	6858 A 1	7841 A 1
1842 A 3	2842 A 1	3843 A 2	3847 A 2	3851 A 2	6841 A 2	6847 A 1	6853 A 1	6860 A 1	
1843 A 1	2845 A 2	3844 A 2	3848 A 2	3854 A 2	6842 A 1	6848 A 1	6856 A 2	6861 A 1	
1845 A 1	3841 A 2	3845 A 2	3849 A 2	3855 A 2	6843 A 1	6851 A 2	6857 A 1	6862 A 1	

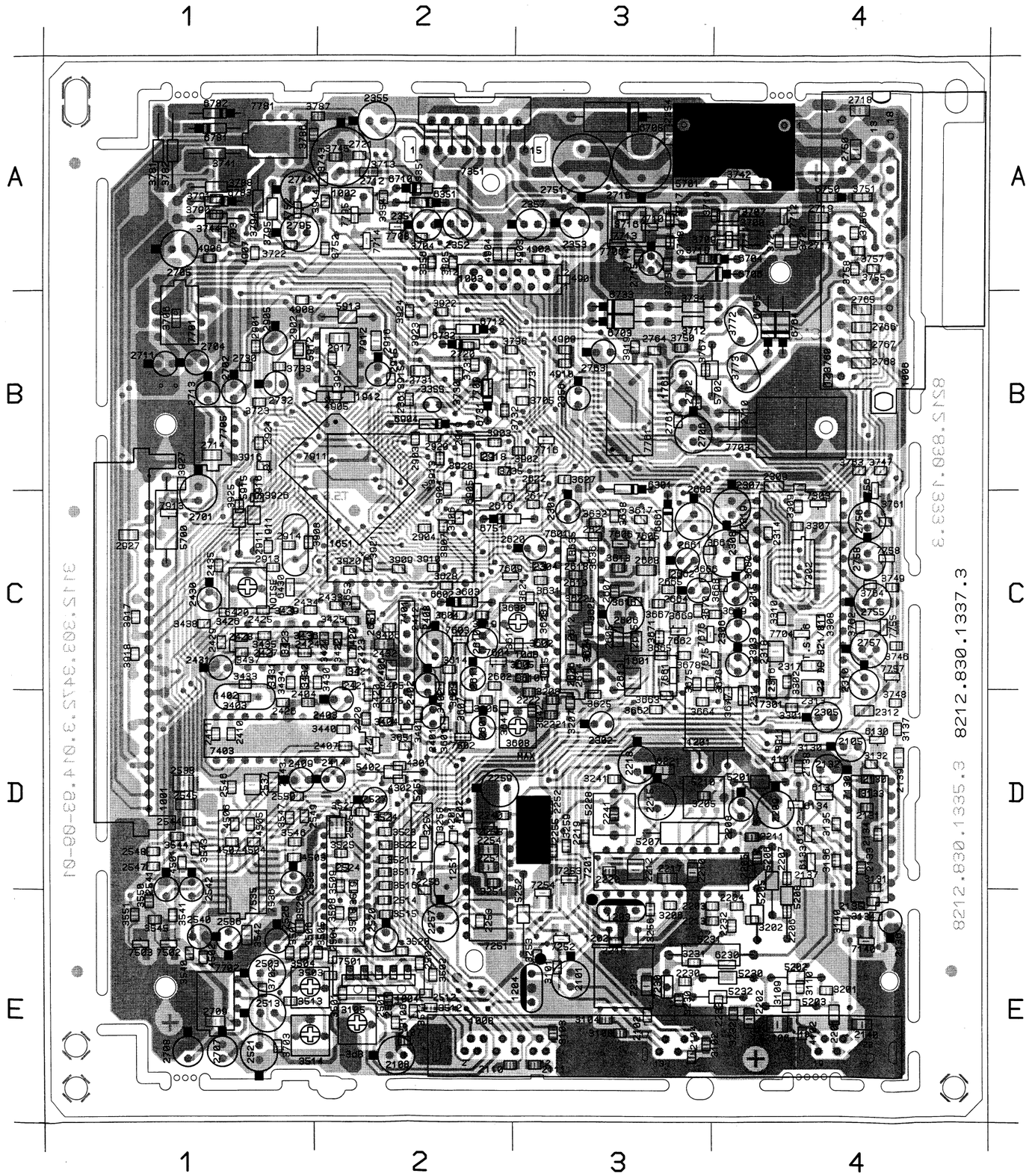


FRONT CIRCUIT (SWITCH + LCD)



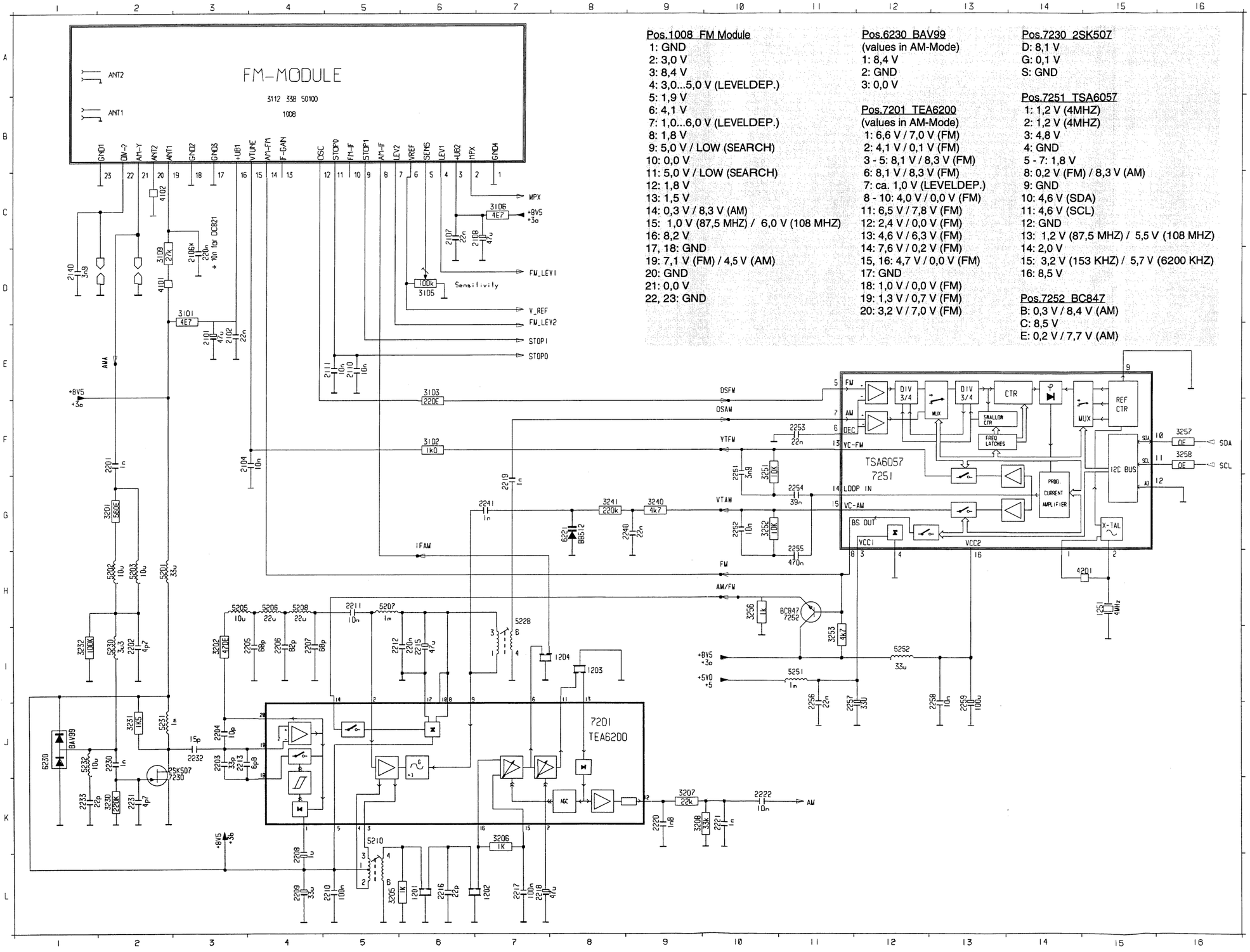
Pos.7841 TMP47C820 (front µP)

1 - 8: 3,0 V
9: 0,0 V (NC)
10: 1,0 V
11 - 14: 0,5 V (KEY PRESSED) / 0,0 V (KEY RELEASED)
15: GND
16 - 18: 0,5 V (KEY PRESSED) / 0,0 V (KEY RELEASED)
19: 0,0 V
20: GND
21: 2,1 V
22: 2,3 V
23, 24: 4,9 V
25 - 28: 5,0 V
29 - 32: GND
33: 5,0 V
34: 5,0 V (NORM. OP.) / 0,0 V (TEST)
35: 0,0 V
36: GND
37: 1,0 V / 0,0 V }
38: 1,0 V / 0,0 V } ONE OF THESE PINS: 0 V; OTHER PINS: 1 V
39: 1,0 V / 0,0 V } (DEPENDENT OF SETTING VIEW ANGLE)
40: 1,0 V / 0,0 V }
41: 0,0 V
42, 43: 0,1 V
44: GND
45, 46: 5,0 V
47 - 49: GND
50: 4,9 V
51, 52: GND
53 - 80: 3,0 V



1001 C 1	2305 D 4	2548 D 1	2915 B 2	3439 C 1	3665 C 3	3904 B 2	6301 B 3	7781 A 1	
1002 A 2	2306 C 4	2549 D 1	2916 B 2	3440 D 2	3666 C 3	3905 A 2	6351 A 2	7783 A 1	
1003 B 2	2307 C 4	2550 D 1	2917 B 2	3501 E 2	3667 C 3	3906 C 2	6420 C 1	7795 A 2	
1004 E 2	2308 C 4	2601 D 2	2918 B 2	3502 E 2	3668 C 4	3907 C 2	6430 C 1	7911 B 2	
1006 A 4	2309 B 4	2602 C 2	2919 B 2	3503 E 2	3669 C 3	3908 C 1	6602 C 2	7912 B 2	
1008 E 3	2310 C 4	2605 C 3	2920 B 2	3504 E 1	3670 C 3	3909 C 2	6661 C 3	7913 C 1	
1201 D 4	2311 D 4	2606 C 3	2924 B 1	3505 E 2	3671 C 3	3910 C 2	6703 B 3		
1202 E 3	2312 D 4	2607 C 3	2927 C 1	3506 E 1	3675 C 3	3911 D 4	6704 A 3		
1203 E 3	2313 C 4	2608 C 3	3101 E 3	3507 E 1	3676 C 3	3913 B 2	6705 A 3		
1204 E 3	2314 C 4	2610 C 2	3102 E 3	3508 E 2	3677 D 4	3914 A 2	6706 A 3		
1251 D 2	2315 C 4	2611 C 2	3103 E 3	3509 D 2	3678 C 3	3915 B 2	6710 A 2		
1402 D 1	2316 C 4	2612 C 3	3104 E 3	3511 E 2	3679 C 4	3916 B 1	6712 B 2		
1601 C 3	2317 C 4	2613 C 3	3105 E 2	3512 E 2	3680 C 4	3917 C 1	6731 B 2		
1651 C 2	2318 C 4	2614 C 3	3106 E 2	3513 E 1	3702 E 1	3918 C 1	6732 B 2		
1761 B 3	2319 C 4	2615 C 3	3108 E 3	3514 E 1	3703 E 1	3919 B 3	6733 B 3		
1911 C 1	2351 A 2	2616 C 2	3109 E 4	3515 E 2	3704 A 2	3920 C 2	6750 A 4		
1912 B 1	2352 A 2	2617 C 3	3110 E 4	3516 D 2	3705 B 3	3921 C 2	6751 C 2		
2101 E 3	2353 A 3	2618 C 3	3130 D 4	3517 D 2	3706 B 1	3922 B 2	6764 B 4		
2102 E 3	2354 A 3	2619 C 3	3131 D 4	3518 E 2	3707 A 4	3923 B 2	6765 B 4		
2104 E 3	2355 A 2	2620 C 3	3132 D 4	3519 D 2	3708 A 4	3924 B 2	6781 A 1		
2105 D 4	2356 B 3	2621 C 3	3133 D 4	3520 E 2	3709 A 4	3925 C 1	6782 A 1		
2106 E 4	2357 A 3	2622 B 3	3134 E 4	3521 D 2	3710 A 4	3926 C 1	6783 A 1		
2107 E 2	2361 B 2	2626 C 3	3135 D 4	3522 D 2	3712 B 3	3927 B 1	6904 B 2		
2108 E 2	2401 D 2	2651 C 2	3136 D 4	3523 D 2	3713 A 2	3928 B 2	6905 C 2		
2110 E 2	2402 C 2	2661 C 3	3137 D 4	3524 D 2	3714 A 3	3951 B 2	7130 D 4		
2111 E 3	2403 D 2	2662 C 3	3140 E 4	3525 D 2	3715 A 3	4101 D 4	7140 E 4		
2130 D 4	2404 D 1	2663 C 3	3201 E 4	3526 E 1	3716 A 3	4102 E 4	7201 D 3		
2131 D 4	2405 D 2	2664 C 3	3202 E 4	3527 D 2	3717 A 3	4201 D 2	7230 E 3		
2132 D 4	2406 C 2	2665 C 3	3205 D 3	3540 E 1	3718 A 3	4202 D 2	7251 D 2		
2133 D 4	2407 D 2	2701 C 1	3206 E 3	3541 E 1	3719 A 3	4301 D 2	7252 E 3		
2134 D 4	2408 C 2	2702 B 1	3207 D 3	3542 E 1	3720 A 4	4302 D 2	7253 D 3		
2135 E 4	2409 D 1	2704 B 1	3208 D 3	3543 D 1	3721 A 4	4501 D 1	7254 E 3		
2136 E 4	2410 D 1	2705 A 1	3230 E 3	3544 D 1	3722 A 1	4502 E 1	7301 C 4		
2137 D 4	2411 D 1	2706 B 3	3231 E 3	3545 E 1	3723 B 1	4503 D 1	7302 C 4		
2138 D 4	2412 C 2	2707 E 1	3232 E 4	3546 D 1	3730 B 2	4504 D 1	7303 C 4		
2139 D 4	2414 D 2	2708 E 1	3240 D 3	3547 D 1	3731 B 2	4505 D 1	7351 A 2		
2140 E 4	2420 D 2	2709 E 1	3241 D 3	3550 E 1	3732 B 2	4506 D 1	7401 C 2		
2201 E 4	2421 C 2	2710 B 4	3251 D 2	3551 E 1	3733 B 1	4507 D 1	7403 D 1		
2202 E 4	2423 C 2	2711 B 1	3252 D 3	3601 D 2	3734 B 3	4901 A 3	7420 C 1		
2203 E 4	2424 C 1	2712 A 2	3253 E 3	3602 C 3	3735 B 2	4902 A 3	7421 D 2		
2204 E 4	2425 C 1	2713 B 1	3256 E 3	3603 C 2	3736 B 2	4903 A 2	7501 D 2		
2205 D 4	2426 D 1	2714 B 1	3257 D 2	3604 C 2	3741 A 1	4904 A 2	7502 E 1		
2206 E 4	2427 C 1	2715 A 3	3258 D 2	3605 C 3	3742 A 4	4905 B 2	7503 E 1		
2207 D 4	2428 C 1	2716 A 3	3259 D 3	3606 D 2	3743 A 2	4906 A 1	7535 D 1		
2208 D 4	2429 C 1	2717 A 4	3260 D 3	3607 D 2	3744 A 1	4907 A 1	7536 D 1		
2209 D 4	2430 C 1	2718 A 4	3301 D 4	3608 D 3	3745 A 2	4908 B 1	7601 C 3		
2210 D 3	2431 C 1	2719 A 4	3302 C 4	3609 C 2	3746 C 4	4909 B 3	7602 D 2		
2211 D 4	2432 C 2	2720 B 2	3307 C 4	3610 C 3	3747 B 4	4910 B 3	7603 C 2		
2212 D 3	2433 C 2	2721 A 2	3308 C 4	3611 C 3	3748 D 4	5201 D 4	7604 C 2		
2213 E 4	2434 C 1	2730 B 1	3309 C 4	3613 C 3	3749 C 4	5202 E 4	7605 C 3		
2215 D 3	2435 C 1	2731 B 2	3310 C 4	3614 C 2	3750 B 3	5203 E 4	7606 C 3		
2216 E 3	2501 E 2	2732 B 1	3351 A 2	3615 C 3	3751 A 4	5205 E 4	7609 C 2		
2217 D 3	2502 E 2	2741 A 1	3354 A 2	3616 C 3	3752 A 2	5206 D 4	7661 C 3		
2218 D 3	2503 E 1	2750 A 4	3355 B 2	3617 C 3	3753 A 4	5207 D 3	7662 C 3		
2219 D 3	2504 E 2	2751 A 3	3356 A 2	3619 C 2	3755 A 4	5208 E 4	7675 C 4		
2220 D 3	2511 E 2	2752 A 4	3401 D 2	3621 C 3	3756 A 4	5210 D 3	7676 C 3		
2221 D 3	2512 E 2	2755 C 4	3402 C 2	3622 C 3	3757 A 4	5228 D 3	7701 B 1		
2222 D 3	2513 E 1	2756 C 4	3403 D 1	3623 C 3	3758 A 4	5230 E 4	7702 E 1		
2230 E 3	2514 E 2	2757 C 4	3404 D 2	3624 C 3	3760 B 4	5231 E 3	7703 B 4		
2231 E 3	2520 E 2	2758 C 4	3405 D 2	3625 D 3	3761 C 4	5232 E 4	7704 C 4		
2232 E 4	2521 E 1	2761 B 3	3406 C 2	3626 C 3	3762 C 4	5251 D 2	7705 B 1		
2233 E 4	2524 D 2	2762 B 3	3420 D 2	3627 B 3	3763 B 4	5252 E 3	7706 A 3		
2240 D 2	2525 D 2	2763 B 3	3421 C 2	3628 C 2	3764 C 4	5402 D 2	7708 A 2		
2241 D 3	2526 E 1	2764 B 3	3422 C 2	3630 C 3	3767 B 3	5700 C 1	7709 B 2		
2251 D 2	2527 D 2	2765 B 4	3423 C 1	3631 C 3	3772 B 4	5701 A 4	7710 A 3		
2252 D 3	2535 D 1	2766 B 4	3424 C 2	3632 C 3	3773 B 4	5702 B 3	7711 A 4		
2253 E 2	2536 E 1	2767 B 4	3425 C 2	3635 C 3	3781 A 1	5912 B 1	7712 A 4		
2254 D 2	2537 D 1	2768 B 4	3426 C 1	3636 C 3	3782 A 1	5913 B 2	7713 A 3		
2255 D 3	2538 D 1	2795 A 1	3430 C 2	3638 C 3	3786 A 1	5915 C 1	7714 A 2		
2256 E 2	2540 E 1	2901 B 1	3431 C 1	3641 D 2	3787 A 2	5916 C 1	7716 B 3		
2257 E 2	2541 E 1	2902 B 1	3432 C 1	3642 D 3	3788 A 1	6130 D 4	7731 B 3		
2258 D 2	2542 E 1	2903 B 2	3433 C 1	3651 D 2	3790 A 1	6131 D 4	7752 A 1		
2259 D 2	2543 D 1	2904 C 2	3434 C 1	3653 C 2	3791 A 1	6132 D 4	7755 C 4		
2301 C 3	2544 D 1	2905 B 1	3435 C 1	3661 C 3	3794 A 1	6133 D 4	7756 C 4		
2302 D 3	2545 D 1	2911 C 1	3436 C 1	3662 D 3	3795 A 1	6134 D 4	7757 C 4		
2303 C 4	2546 D 1	2913 C 1	3437 C 1	3663 D 3	3902 B 3	6221 D 3	7758 C 4		
2304 C 3	2547 D 1	2914 C 1	3438 C 1	3664 D 3	3903 B 2	6230 E 4	7761 B 3		

FM MODUL / AM PART / PLL SYNTHESIZER



Pos.1008 FM Module
1: GND
2: 3,0 V
3: 8,4 V
4: 3,0...5,0 V (LEVELDEP.)
5: 1,9 V
6: 4,1 V
7: 1,0...6,0 V (LEVELDEP.)
8: 1,8 V
9: 5,0 V / LOW (SEARCH)
10: 0,0 V
11: 5,0 V / LOW (SEARCH)
12: 1,8 V
13: 1,5 V
14: 0,3 V / 8,3 V (AM)
15: 1,0 V (87,5 MHZ) / 6,0 V (108 MHZ)
16: 8,2 V
17, 18: GND
19: 7,1 V (FM) / 4,5 V (AM)
20: GND
21: 0,0 V
22, 23: GND

Pos.6230 BAV99
(values in AM-Mode)
1: 8,4 V
2: GND
3: 0,0 V

Pos.7201 TEA6200
(values in AM-Mode)
1: 6,6 V / 7,0 V (FM)
2: 4,1 V / 0,1 V (FM)
3 - 5: 8,1 V / 8,3 V (FM)
6: 8,1 V / 8,3 V (FM)
7: ca. 1,0 V (LEVELDEP.)
8 - 10: 4,0 V / 0,0 V (FM)
11: 6,5 V / 7,8 V (FM)
12: 2,4 V / 0,0 V (FM)
13: 4,6 V / 6,3 V (FM)
14: 7,6 V / 0,2 V (FM)
15, 16: 4,7 V / 0,0 V (FM)
17: GND
18: 1,0 V / 0,0 V (FM)
19: 1,3 V / 0,7 V (FM)
20: 3,2 V / 7,0 V (FM)

Pos.7230 2SK507
D: 8,1 V
G: 0,1 V
S: GND

Pos.7251 TSA6057
1: 1,2 V (4MHZ)
2: 1,2 V (4MHZ)
3: 4,8 V
4: GND
5 - 7: 1,8 V
8: 0,2 V (FM) / 8,3 V (AM)
9: GND
10: 4,6 V (SDA)
11: 4,6 V (SCL)
12: GND
13: 1,2 V (87,5 MHZ) / 5,5 V (108 MHZ)
14: 2,0 V
15: 3,2 V (153 KHZ) / 5,7 V (6200 KHZ)
16: 8,5 V

Pos.7252 BC847
B: 0,3 V / 8,4 V (AM)
C: 8,5 V
E: 0,2 V / 7,7 V (AM)

STEREO DECODER

RDS / NOISE / MULTIPATH

Pos.7601 TDA1591
1: 4,6 V
2: 4,3 V
3: GND
4: 3,0 V
5: 8,4 V
6: 2,2 V
7: 2,2 V / 0,0 V (AM)
8: 6,3 V
9 - 14: 3,8 V
15 - 17: 2,8 V
18: 5,0 V / 0,0 V (MONO)
19: 0,5 V
20: 3,0 V

Pos.7602 BC847
B: 1,0...6,0 V (LEVELDEP.)
C: 8,4 V
E: 0,0...5,0 V (LEVELDEP.)

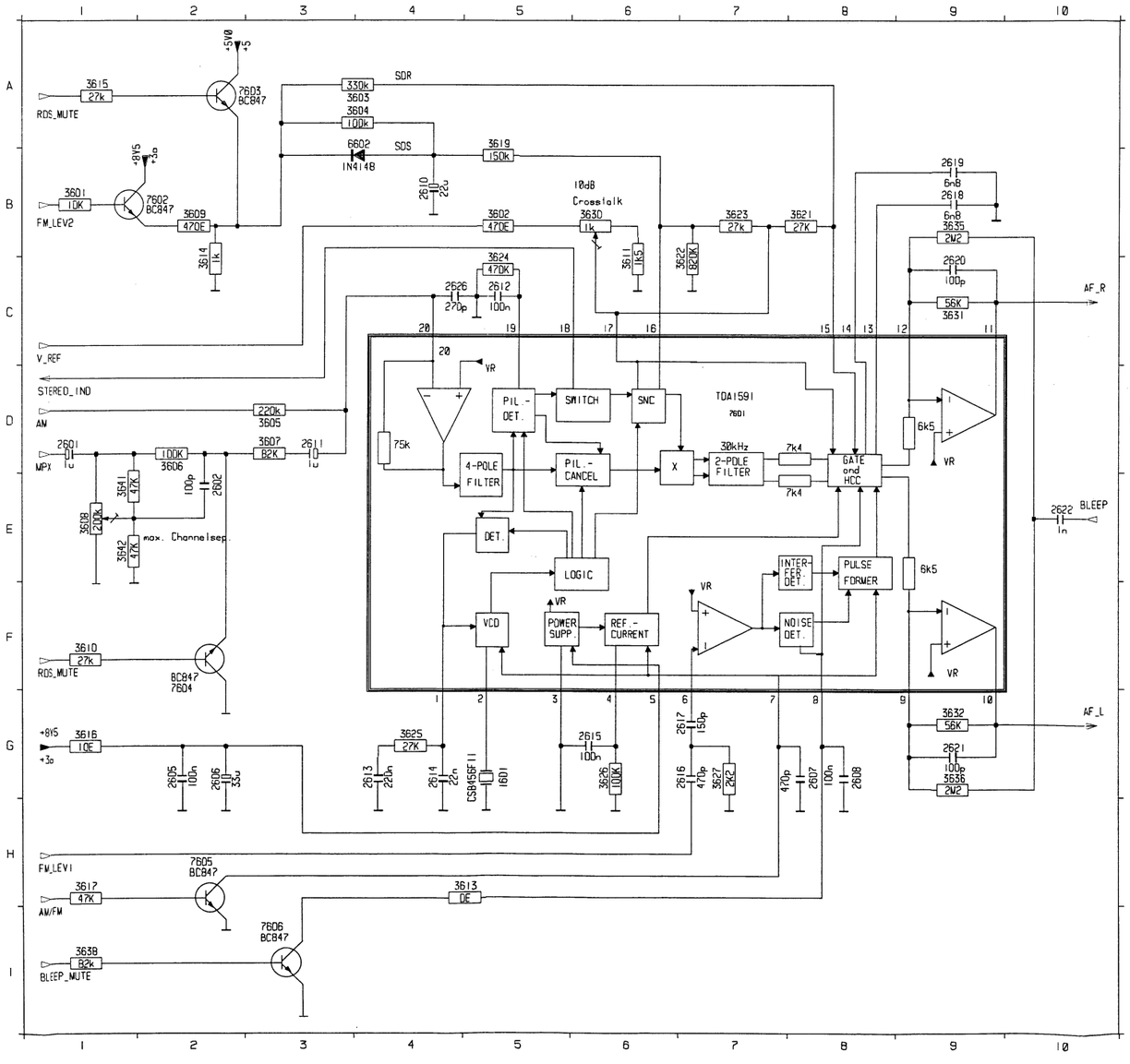
Pos.7603 BC847
B: 0,1 V / 4 V (MUTE)
C: 5,0 V
E: 2,4 V / 3,4 V (MUTE)

Pos.7604 BC847-40
B: 0,1 V / 0,7 V (MUTE)
C: GND
E: 0,0 V

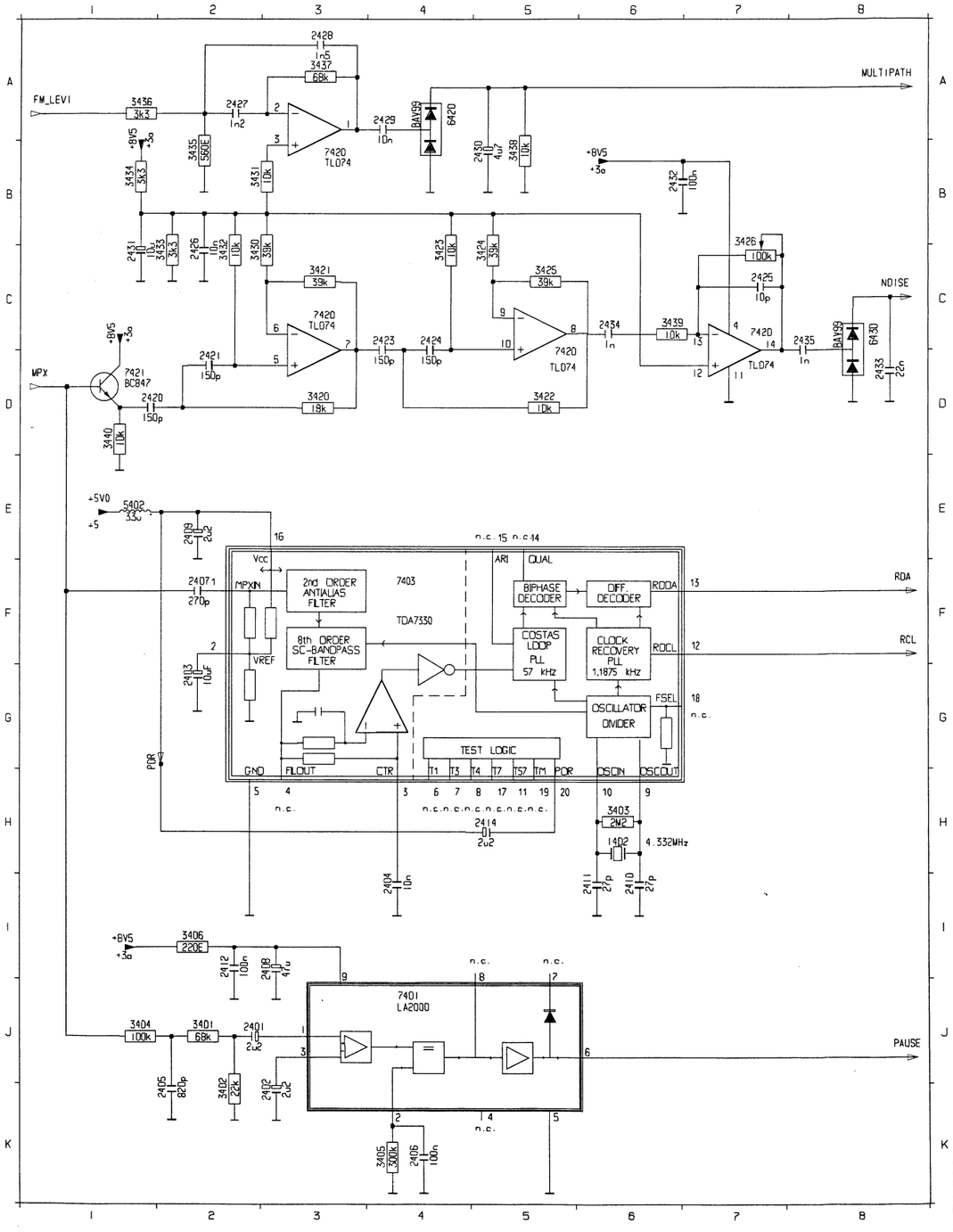
Pos.7605 BC847
B: 0,3 V
C: 2,3 V
E: GND

Pos.7606 BC847
B: 0,5 V
C: 4,4...6,3 V (LEVELDEP.)
E: GND

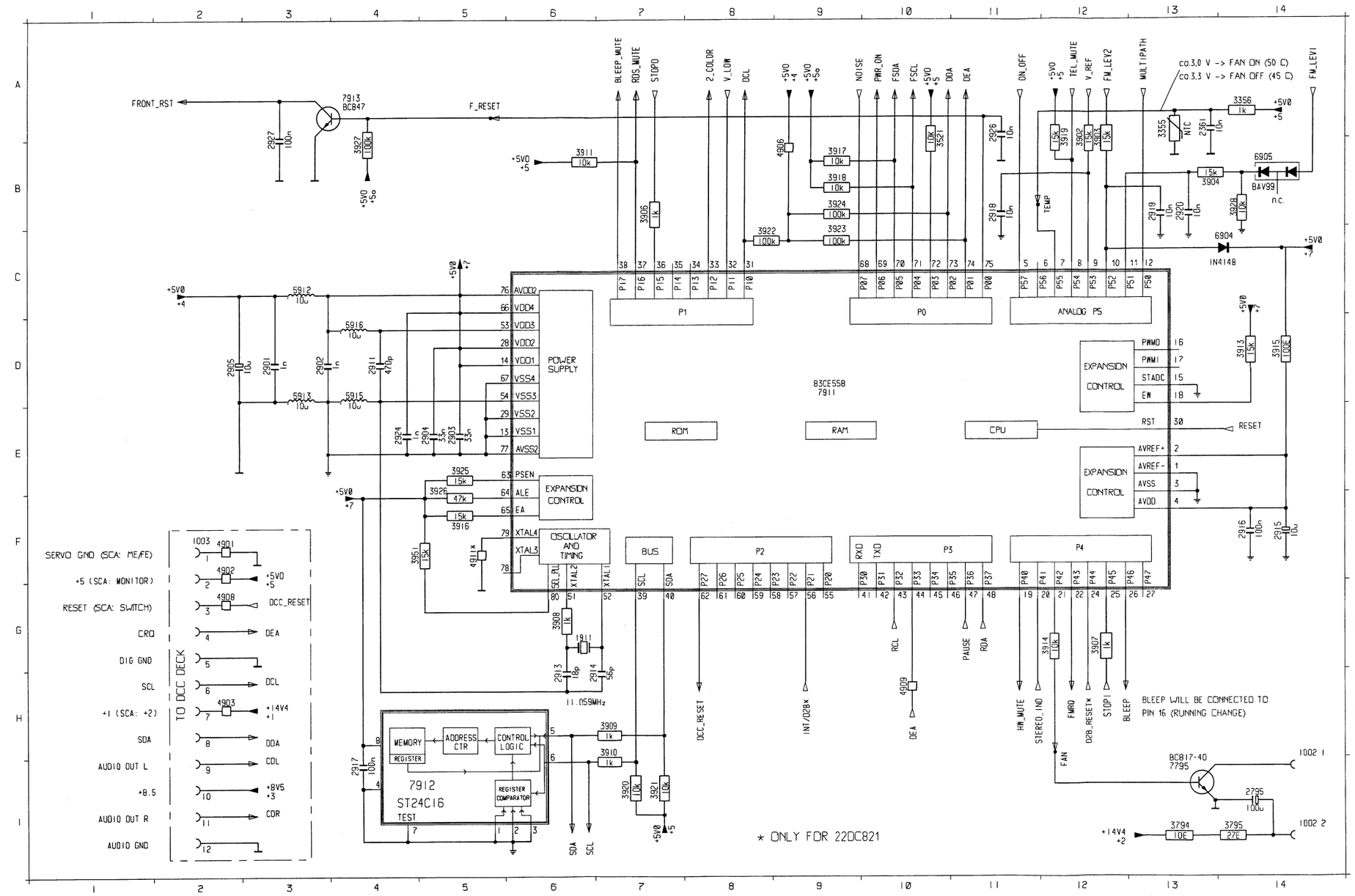
1601	G 5	2610	B 4	2617	G 7	3601	B 1	3608	E 1	3616	G 1	3625	G 4	3636	G 9	7603	A 2
2601	D 1	2611	D 3	2618	B 9	3602	B 5	3609	B 2	3617	H 1	3626	G 6	3638	I 1	7604	F 2
2602	E 2	2612	C 5	2619	B 9	3603	A 4	3610	F 1	3619	A 5	3627	G 7	3641	E 1	7605	H 2
2605	G 2	2613	G 4	2620	C 9	3604	A 4	3611	C 6	3621	B 8	3630	B 6	3642	E 1	7606	I 3
2606	G 2	2614	G 4	2621	G 9	3605	D 3	3613	H 5	3622	C 7	3631	C 9	6602	B 4		
2607	G 8	2615	G 6	2622	E10	3606	D 2	3614	C 2	3623	B 7	3632	G 9	7601	D 7		
2608	G 8	2616	G 7	2626	C 4	3607	D 3	3615	A 1	3624	C 5	3635	B 9	7602	B 2		



1402	H 6	2409	E 2	2425	C 7	2434	C 6	3421	C 3	3433	C 2	6420	A 4
2401	J 2	2410	I 6	2426	C 2	2435	C 8	3422	D 5	3434	B 1	6430	C 8
2402	K 3	2411	I 6	2427	A 2	3401	J 2	3423	C 4	3435	B 2	7401	J 4
2403	G 2	2412	I 2	2428	A 3	3402	K 2	3424	C 5	3436	A 1	7403	F 4
2404	I 4	2414	H 5	2429	A 4	3403	H 6	3425	C 5	3437	A 3	7420	B 3
2405	K 2	2420	D 1	2430	B 5	3404	J 1	3426	B 7	3438	B 5	7420	C 3
2406	K 4	2421	D 2	2431	C 1	3405	K 4	3430	C 2	3439	C 6	7420	D 5
2407	F 2	2423	C 4	2432	B 6	3406	I 2	3431	B 2	3440	D 1	7420	C 7
2408	I 3	2424	C 4	2433	D 8	3420	D 3	3432	C 2	5402	E 1	7421	D 1



uC / EEPROM / FAN / DCC CONNECTOR



1002 H14
1002 I14
1003 F 2
1911 G 6
2361 A13
2795 I14
2901 D 3
2902 D 3
2903 E 5
2904 E 5
2905 D 2
2911 D 4
2913 H 6
2914 H 7
2915 F14
2916 F14
2917 I 4
2918 B11
2919 B13
2920 B13
2924 E 4
2926 A11
2927 A 4
3355 A13
3356 A14
3521 A10
3794 I13
3795 I14
3902 A12
3903 A12
3904 B13
3906 B 7
3907 G12
3908 G 6
3909 H 7
3910 H 7
3911 B 6
3913 D14
3914 G12
3915 D14
3916 F 5
3917 B 9
3918 B 9
3919 A12
3920 I 7
3921 I 7
3922 C 8
3923 C 9
3924 B 9
3925 E 5
3926 E 5
3927 B 4
3928 B14
3951 F 4
4901 F 2
4902 F 2
4903 H 2
4906 B 9
4908 G 2
4909 H10
4911x F 5
5912 C 3
5913 D 3
5915 D 4
5916 D 4
6904 C14
6905 B14
7795 I13
7911 D 9
7912 I 4
7913 A 4

Pos.6420 BAV99
1: 0,0 V
2: GND
3: 0,0 V

Pos.6430 BAV99
1: 0,0 V
2: GND
3: 0,0 V

Pos.7401 LA2000
1: 1,9 V
2: 7,1 V / 0,0 V (AM)
3: 2,0 V
4: 0,0 V (NC)
5: GND
6: 5,0 V
7: 4,3 V (NC)
8: 3,0 V (NC)
9: 7,5 V

Pos.7403 TDA7330
1, 2: 2,2 V
3: 1,5 V
4: 1,5 V (NC)
5: GND
6 - 8: NC
9, 10: 2,4 V (4,3 MHz)
11: 2,4 V (NC)
12: 2,5 V
13: ca. 1,8 V
14: 5,0 V (NC)
15: 0,1 V (NC)
16: 5,0 V
17: 0,1 V (NC)
18: 0,1 V (NC)
19: 0,1 V (NC)
20: 0,1 V

Pos.7420 TL074
1 - 3: 4,2 V
4: 8,5 V
5 - 8: 4,2 V
9: 4,3 V
10: 4,2 V
11: GND
12 - 14: 4,2 V

Pos.7421 BC847
B: 3,1 V
C: 8,5 V
E: 2,2...2,8 V (LEVEL DEP.)

Pos. 6905 BAV99
1: 2,5...3,5 V (LEVEL DEP.)
2: 3,0...4,3 V (LEVEL DEP.)
3: 2,7...4,0 V (LEVEL DEP.)

Pos. 7795 BC817-40
B: 0,1 V (FAN OFF) / 0,6 V (FAN ON)
C: 14,2 V (FAN OFF) / 1,6 V (FAN ON)
E: GND

Pos.7911 89CE558 (P)
1: GND
2: 5,0 V
3: GND
4: 5,0 V
5: 5,0 V
6: 0,4 V
7: 4,1 V
8: 4,6 V / 0,6 V (PHONE)
9: 4,0 V
10: 1,0...6.0 V (LEVEL DEP.)
11: 3,0...5,0 V (LEVEL DEP.)
12: 0,0 V
13: GND
14: 5,0 V
15: GND
16, 17: 5,0 V (NC)
18: 5,0 V
19: 0,1 V
20: 0,1 V (MO) / 5,0 V (ST)
21: 0,1 V
22: ca. 4,7 V
23: 0,1 V (NC)
24: 5,0 V (NC)
25: 5,0 V / LOW (SEARCH)
26: 0 5 V OR 5 0 V (AT BLEEP)
27: 5,0 V (NC)
28: 5,0 V
29: GND
30: 0,1 V
31, 32: 5,0 V
33: 5,0 V (ORANGE) / 0,1 V (GREEN)
34: 5,0 V (NC)
35: 0,0 V (NC)
36: 5,0 V / LOW (SEARCH)
37: 0,0 V / 4,4 V (SEARCH MUTE)
38: 0,1 V
39: 4,9 V (SCL)
40: 4,9 V (SDA)
41: 5,0 V (NC)
42: 5,0 V (NC)
43: 2,5 V
44: 5,0 V (RADIO OP.)
45: 5,0 V (NC)
46: 0,1 V (NC)
47: 5,0 V48: ca. 2,0 V
49, 50: 0,0 V (NC)
51: 2,4 Veff (11,0 MHZ) / 2,3 Vdc
52: 0,7 Veff (11,0 MHZ) / 2,1 Vdc
53: 5,0 V
54: 0,1 V
55 - 61: 5,0 V (NC)
62: 5,0 V
63: 5,0 V
64: 0,0 V (ON) / 5,0 V (OFF)
65: 5,0 V
66: 5,0 V
67: GND
68: 0,1 V
69: 0,1 V
70: 4,9 V (FSDA)
71: 4,9 V (FSCL)
72: 5,0 V (NC)
73: 4,8 V
74: 5,0 V
75: 0,1 V
76: 5,0 V
77: GND
78, 79: 0,0 V (NC)
80: 5,0 V (OSC)

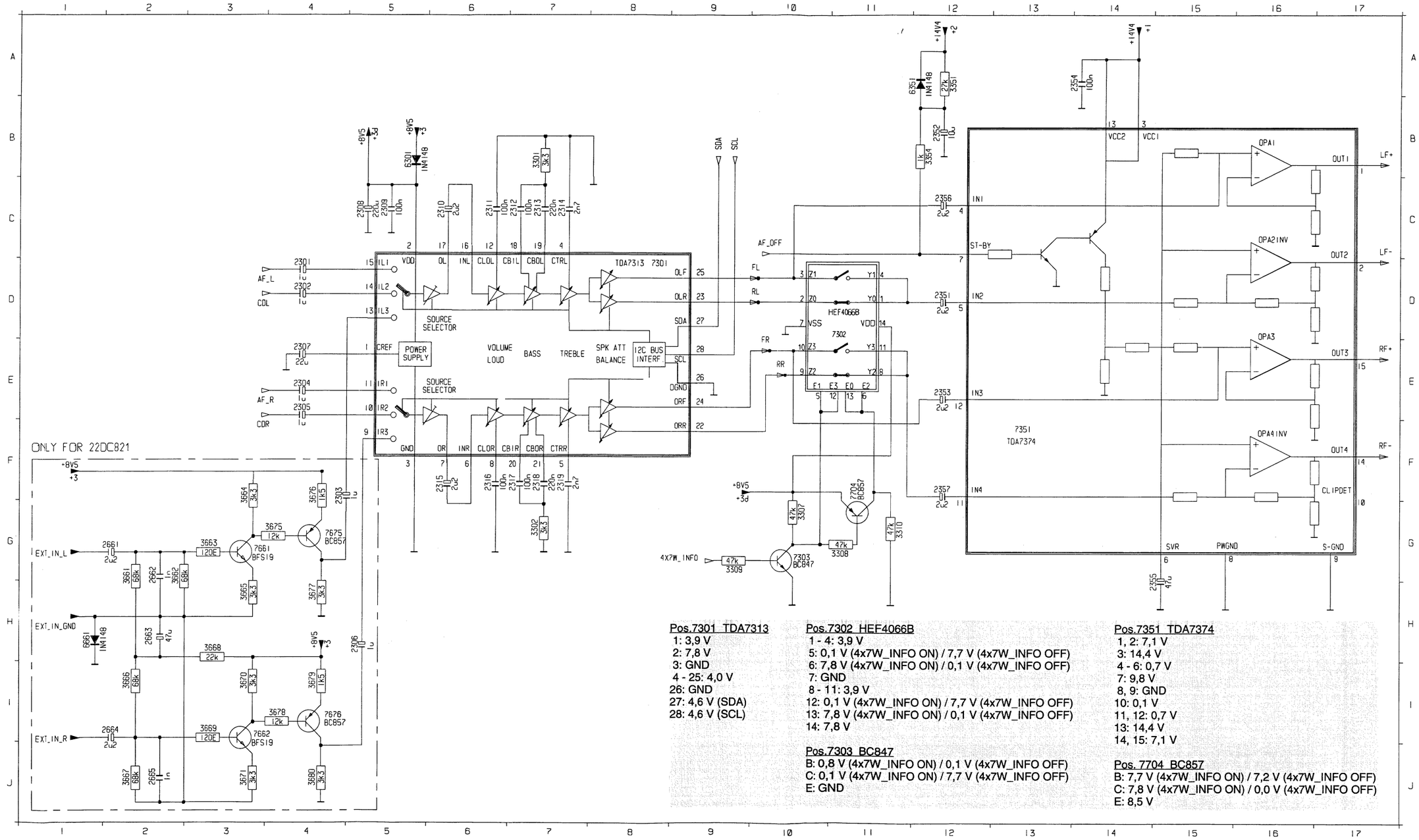
Pos.7912 ST24C16
1 - 4: GND
5: 4,6 V (SDA)
6: 4,6 V (SCL)
7: GND
8: 5,0 V

Pos. 7913 BC847
B: 0,1 V / 0,6 V(F_RES.)
C: 4,9 V
E: GND

AUDIO CONTROL / AF POWER STAGE

2301	D 4	2306	H 5	2311	C 6	2316	F 6	2352	B12	2357	F12	2665	J 2	3309	G 9	3662	G 2	3667	J 2
2302	D 4	2307	E 4	2312	C 7	2317	F 7	2353	E12	2661	G 2	3301	B 7	3310	G11	3663	G 3	3668	H 3
2303	F 4	2308	C 5	2313	C 7	2318	F 7	2354	A14	2662	G 2	3302	G 7	3351	A12	3664	F 3	3669	I 3
2304	E 4	2309	C 5	2314	C 7	2319	F 7	2355	G15	2663	H 2	3307	G10	3354	B12	3665	H 3	3670	I 3
2305	E 4	2310	C 6	2315	F 6	2351	D12	2356	C12	2664	I 2	3308	G11	3661	G 2	3666	I 2	3671	J 3

3672	J 4	3675	G 4	3680	J 4	7302	D11	7675	G 4										
3673	J 4	3676	F 4	6301	B 5	7303	G10	7676	I 4										
3674	J 4	3677	H 4	6351	A12	7351	F13	7704	F11										
		3678	I 4	6661	H 1	7661	G 3												
		3679	I 4	7301	D 8	7662	I 3												



Pos.7301 TDA7313
1: 3,9 V
2: 7,8 V
3: GND
4 - 25: 4,0 V
26: GND
27: 4,6 V (SDA)
28: 4,6 V (SCL)

Pos.7302 HEF4066B
1 - 4: 3,9 V
5: 0,1 V (4x7W_INFO ON) / 7,7 V (4x7W_INFO OFF)
6: 7,8 V (4x7W_INFO ON) / 0,1 V (4x7W_INFO OFF)
7: GND
8 - 11: 3,9 V
12: 0,1 V (4x7W_INFO ON) / 7,7 V (4x7W_INFO OFF)
13: 7,8 V (4x7W_INFO ON) / 0,1 V (4x7W_INFO OFF)
14: 7,8 V

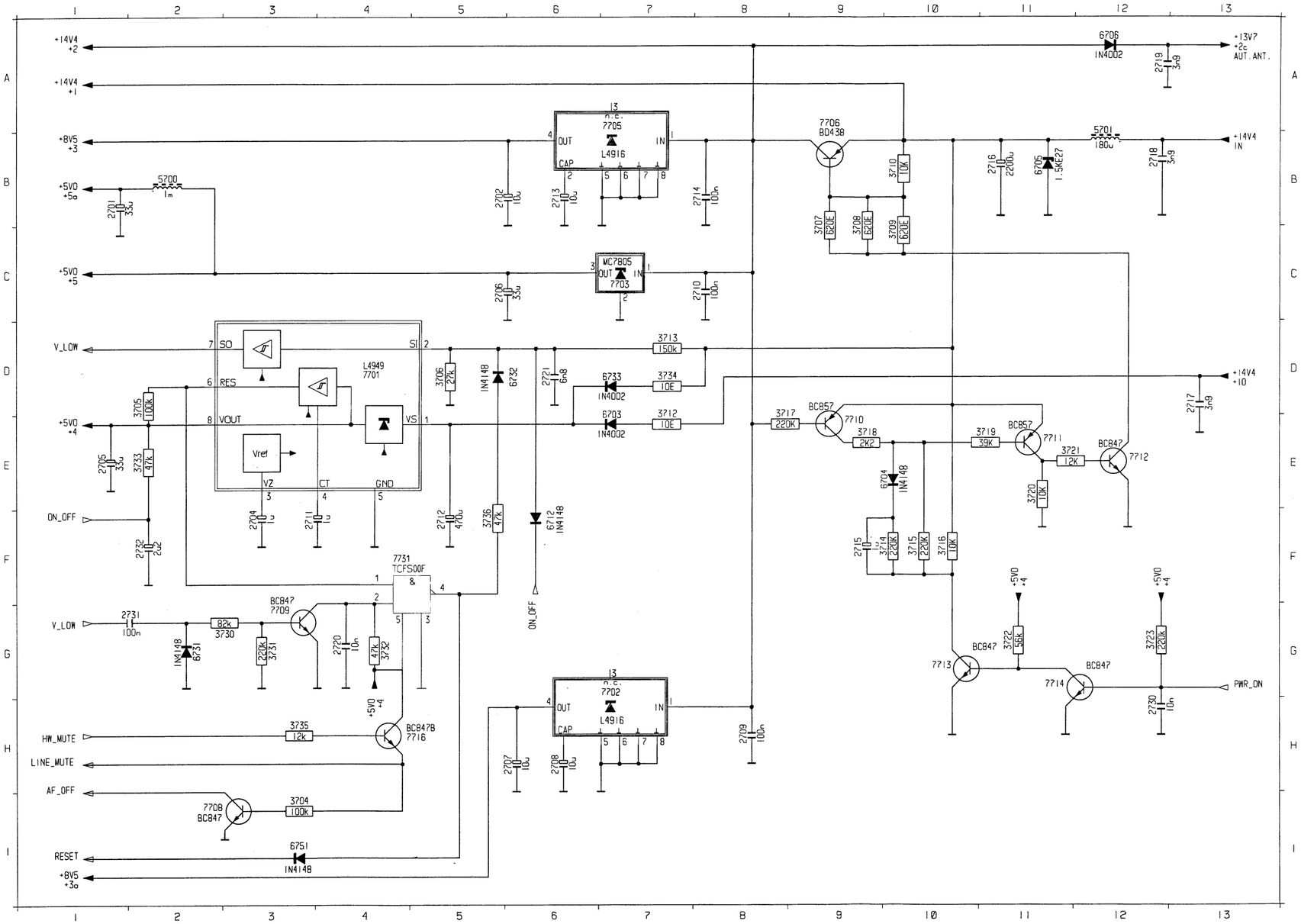
Pos.7303 BC847
B: 0,8 V (4x7W_INFO ON) / 0,1 V (4x7W_INFO OFF)
C: 0,1 V (4x7W_INFO ON) / 7,7 V (4x7W_INFO OFF)
E: GND

Pos.7351 TDA7374
1, 2: 7,1 V
3: 14,4 V
4 - 6: 0,7 V
7: 9,8 V
8, 9: GND
10: 0,1 V
11, 12: 0,7 V
13: 14,4 V
14, 15: 7,1 V

Pos. 7704 BC857
B: 7,7 V (4x7W_INFO ON) / 7,2 V (4x7W_INFO OFF)
C: 7,8 V (4x7W_INFO ON) / 0,0 V (4x7W_INFO OFF)
E: 8,5 V

POWER SUPPLY

2701	B 1	2709	H 8	2716	B11	2731	G 2	3709	C10	3717	E 8	3730	G 3	5700	B 2	6731	G 2	7705	A 7	7713	G10
2702	B 5	2710	C 8	2717	D13	2732	F 2	3710	B10	3718	E 9	3731	G 3	5701	B12	6732	D 6	7706	A 9	7714	G11
2704	F 3	2711	F 3	2718	B12	3704	I 3	3712	E 7	3719	E11	3732	G 4	6703	E 7	6733	D 7	7708	I 3	7716	H 4
2705	E 1	2712	F 5	2719	A12	3705	D 2	3713	D 7	3720	E11	3733	E 2	6704	E10	6751	I 3	7709	G 3	7731	F 4
2706	C 5	2713	B 6	2720	G 4	3706	D 5	3714	F10	3721	E11	3734	D 7	6705	B11	7701	D 4	7710	E 9		
2707	H 6	2714	B 8	2721	D 6	3707	B 9	3715	F10	3722	G11	3735	H 3	6706	A12	7702	G 7	7711	E11		
2708	H 6	2715	F 9	2730	H12	3708	B 9	3716	F10	3723	G12	3736	F 5	6712	F 6	7703	C 7	7712	E12		



Pos.7701 L4949
1: 13,6 V
2: 2,2 V
3: 7,0 V
4: 2,3 V
5: GND
6 - 8: 5,0 V

Pos.7702 L4916
1: 14,2 V
2: 2,5 V
3: 0,0 V
4: 8,4 V
5 - 8: GND

Pos.7703 MC7805
1: 14,2 V
2: GND
3: 5,0 V

Pos.7705 L4916
1: 14,2 V
2: 2,5 V
3: 0,0 V
4: 8,4 V
5 - 8: GND

Pos.7706 BD438
B: 13,5 V
C: 14,2 V
E: 14,4 V

Pos.7708 BC847
B: 0,0 V
C: 10 V
E: GND

Pos.7709 BC847
B: 0,0 V
C: 5,0 V
E: GND

Pos.7710 BC857
B: 14 V
C: 10,2 V
E: 14,4 V

Pos.7711 BC857
B: 13,8 V
C: 14,4 V
E: 14,5 V

Pos.7712 BC847
B: 0,9 V
C: 0,3 V (ON) / 14,4 V (OFF)
E: GND

Pos.7713 BC847
B: 0,8 V
C: 0,2 V
E: GND

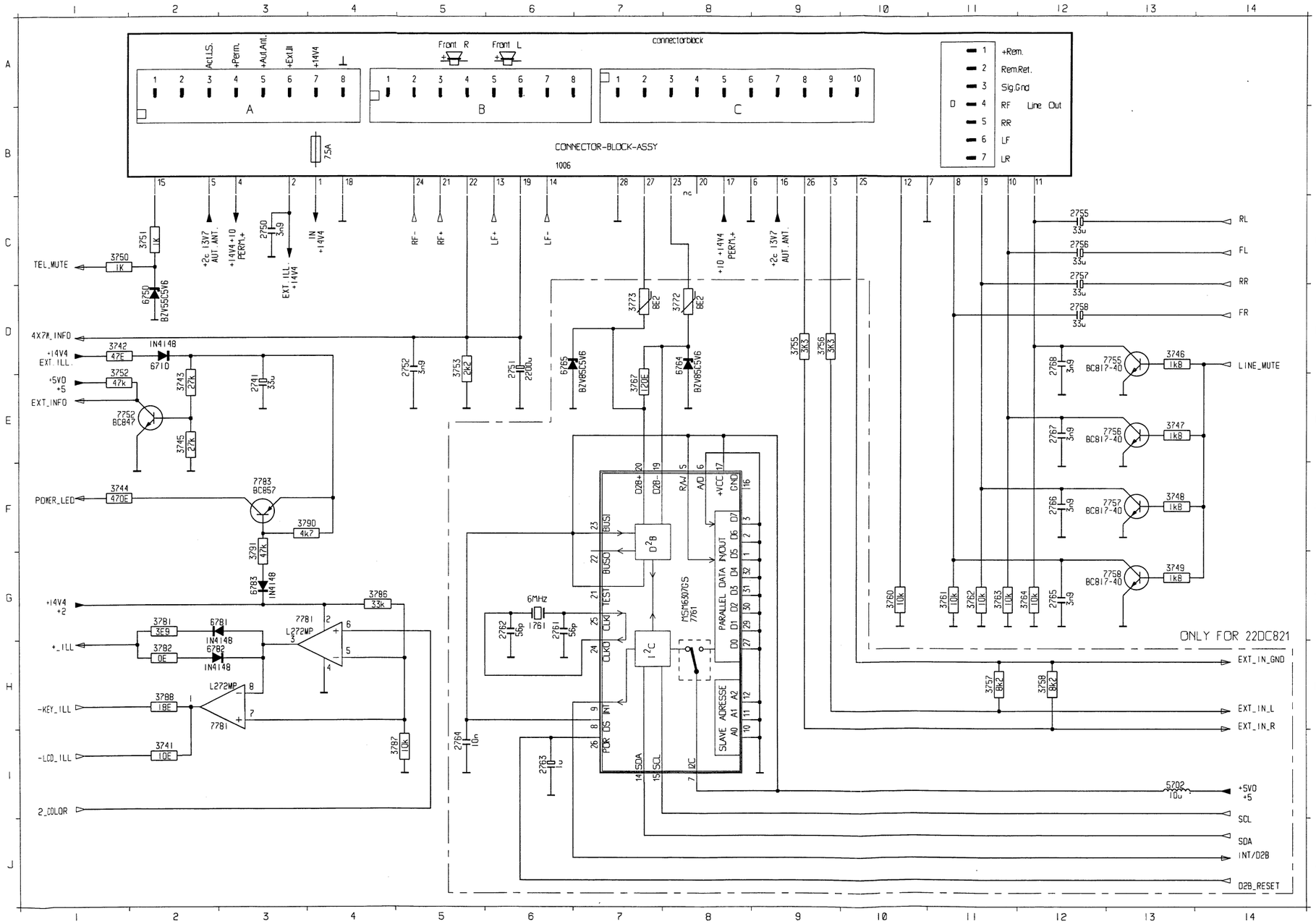
Pos.7714 BC847
B: 0,1 V (ON) / 0,6 V (OFF)
C: 0,8 V (ON)
E: GND

Pos.7716 BC847B
B: 0,1 V
C: 5,0 V
E: 0,0 V

Pos.7731 TCFS00F
1: 5,0 V }
2: 5,0 V }
3: 0,1 V } NORMAL OPERATION
4: 0,1 V }
5: 5,0 V }

CONNECTOR / CHANGER INTERFACE

1006	B 6	2755	C12	2763	I 6	3741	I 2	3747	E13	3753	D 5	3761	G11	3773	D 7	3790	F 4	6765	D 6	7756	E13	7783	F 3
1761	G 6	2756	C12	2764	I 5	3742	D I	3748	F13	3755	D 9	3762	G11	3781	G 2	3791	F 3	6781	G 3	7757	F13		
2741	E 3	2757	C12	2765	G12	3743	E 2	3749	G13	3756	D 9	3763	G11	3782	H 2	5702	I13	6782	H 2	7758	G13		
2750	C 3	2758	D12	2766	F12	3744	F I	3750	C I	3757	H11	3764	G12	3786	G 4	6710	D 2	6783	G 3	7761	G 8		
2751	D 6	2761	G 6	2767	E12	3745	E 2	3751	C 2	3758	H12	3767	E 7	3787	I 5	6750	D 2	7752	E 2	7781	G 4		
2752	D 5	2762	G 6	2768	D12	3746	D13	3752	E I	3760	G10	3772	D 8	3788	H 2	6764	D 8	7755	D13	7781	H 3		



Pos. 7752 BC847
B: 0,7 V (OFF) / 0,8 V (ON)
C: 0,0 V (OFF) / 0,1 V (ON)
E: GND

Pos. 7755 BC817-40
B: 0,0 V / 0,5 V (LINE MUTE)
C: 0,1 V
E: GND

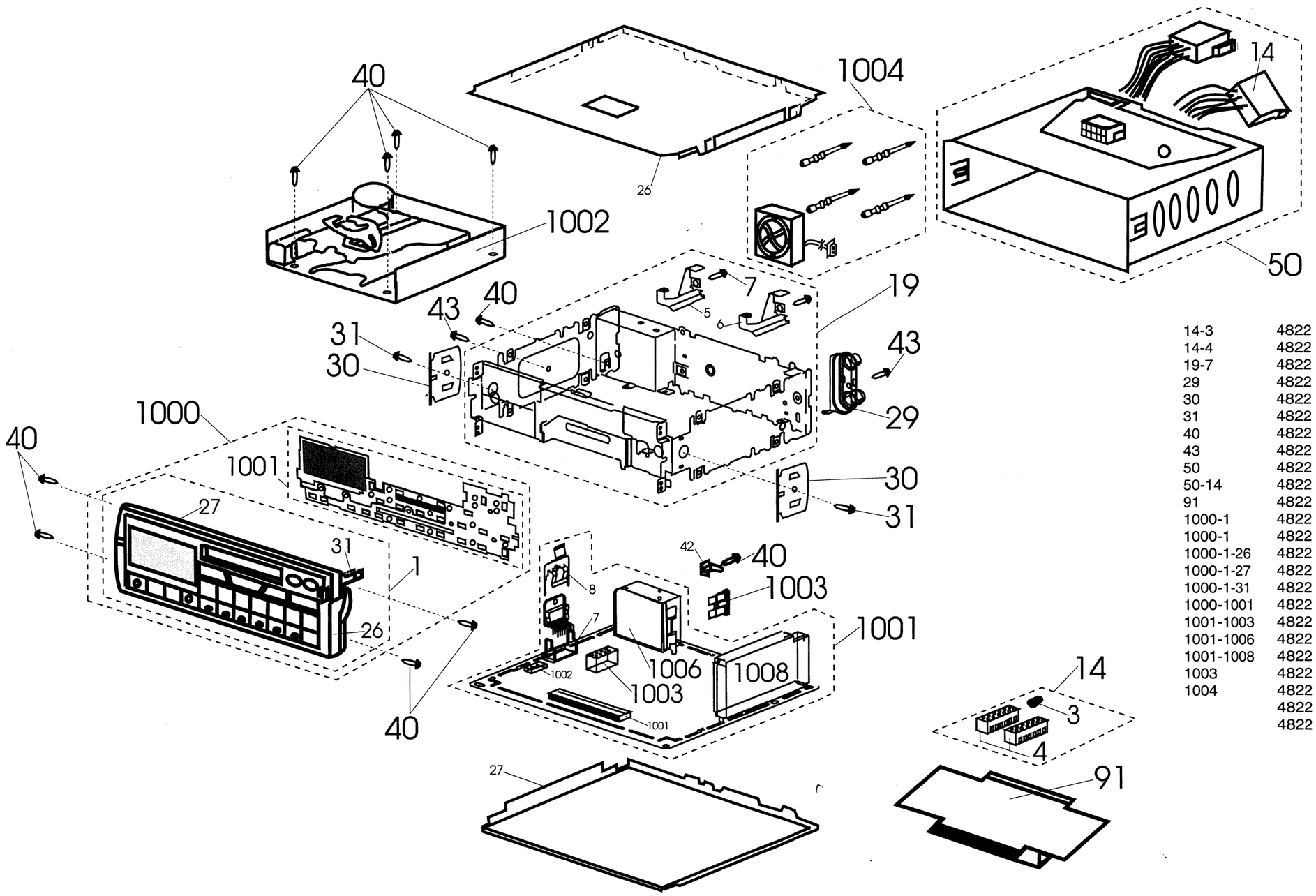
Pos. 7756 BC817-40
B: 0,0 V / 0,5 V (LINE MUTE)
C: 0,1 V
E: GND

Pos. 7757 BC817-40
B: 0,0 V / 0,5 V (LINE MUTE)
C: 0,1 V
E: GND

Pos. 7758 BC817-40
B: 0,0 V / 0,5 V (LINE MUTE)
C: 0,1 V
E: GND

Pos. 7781 L272 MP
1: 1,0 V (RED DISPLAY) / 13,3 V (GREEN DISPLAY)
2: 14,2 V
3: 13,3 V (RED) / 1,0 V (GREEN)
4: GND
5: 3,4 V
6: 5,1 V (RED) / 0,1 V (GREEN)
7: 3,4 V
8: 13,3 V (RED) / 1,0 V (GREEN)

Pos. 7783 BC857
B: 12 V (OFF) / 13,9 V (ON)
C: 12,3 V (OFF) / 0,0 V (ON)
E: 12,8 V (OFF) / 13,9 V (ON)



14-3	4822 532 11092	BUFFER MOUNTING
14-4	4822 267 41036	CONNECTOR MOUNTING 6P
19-7	4822 502 11715	SCREW M2,5X5
29	4822 268 20224	AERIAL SOCKET
30	4822 404 21234	SPRING FIXATION
31	4822 502 12866	SCREW M3X5
40	4822 502 11715	SCREW M2,5X5
43	4822 502 12796	SCREW M2,5X12
50	4822 691 10414	SLEEVE RETRAC
50-14	4822 321 61534	CABLE,CONNECT.POWER
91	4822 015 20646	DCC CLEANING CASS.SBC3500
1000-1	4822 459 50818	ORN.PLATE ASSY DC811
1000-1	4822 701 13894	ORN.PLATE ASSY DC821
1000-1-26	4822 498 40585	RETRAC HANDLE
1000-1-27	4822 464 70588	FRAME COVER
1000-1-31	4822 492 71083	SPRING FOR HANDLE
1000-1001	4822 214 52171	FRONT PWB COMBINATION
1001-1003	4822 267 51329	CONNECTOR 12P
1001-1006	4822 290 61114	CONNECTORBLOCK ASSY
1001-1008	4822 210 10589	FM MODUL
1003	4822 071 27502	FUSE 7.5A
1004	4822 515 20135	COOLING FAN ASSY
	4822 736 21941	DIRECT. FOR USE DC811
	4822 736 22038	DIRECT. FOR USE DC821

MISCELLANEOUS

1201	4822 242 72076	CRYSTAL	10,7 MHZ
1202	4822 242 72076	CRYSTAL	10,7 MHZ
1203	4822 242 71883	CERAM FILTER	SFE10,7MS318-D
1204	4822 242 71883	CERAM FILTER	SFE10,7MS318-D
1251	4822 242 71874	CRYSTAL	4,000 MHZ
1402	4822 242 72195	CRYSTAL	4,332 MHZ
1601	4822 242 81117	RESONATOR	CSB456F11
1761	4822 242 81659	RESONATOR	CST 5,75 MHZ
1810...			
1833	4822 276 20521	SWITCH,PUSHBUT.	
1911	4822 242 81646	CRYSTAL	11.059 MHZ

CAPACITORS

2101	4822 124 22646	ELCAP	47UF	20%	16V
2102	5322 122 32654	CAP.CHIP	22NF	10% X7R	63V
2104	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2106	4822 122 33177	CAP.CHIP	10NF	10%	
2106	4822 122 32916	CAP.CHIP	220NF	10% X7R	63V
2107	5322 122 32654	CAP.CHIP	22NF	10% X7R	63V
2108	4822 124 40177	ELCAP	47UF	20%	10V
2110	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2111	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2140	4822 122 32566	CAP.CHIP	3,9NF	10% X7R	63V
2201	5322 122 31647	CAP.CHIP	1NF	10% X7R	63V
2202	4822 122 32082	CAP.CHIP	4,7PF	5%	50V
2203	5322 122 32659	CAP.CHIP	33PF	5%	50V
2204	5322 122 32448	CAP.CERAMIC	10PF	5%	50V
2205	4822 122 33514	CAP.CHIP	68PF	5% NP0	50V
2206	4822 122 33515	CAP.CHIP	82PF	5% NP0	63V
2207	4822 122 33514	CAP.CHIP	68PF	5% NP0	50V
2208	4822 124 23282	ELCAP	1UF	20%	50V
2209	4822 124 23281	ELCAP	33UF	20%	16V
2210	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2211	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2212	4822 122 32916	CAP.CHIP	220NF	10% X7R	63V
2213	4822 126 11179	CAP.CHIP	6,8PF	5%	
2215	4822 124 22646	ELCAP	47UF	20%	16V
2216	5322 122 32658	CAP.CHIP	22PF	5%	50V
2217	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2218	4822 124 22646	ELCAP	47UF	20%	16V
2219	4822 122 33178	CAP.CHIP	1NF	20%	
2219	4822 121 51354	CAP.FOIL	1NF	10%	50V
2220	4822 122 33219	CAP.CHIP	1,8NF	10% X7R	50V
2221	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2222	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2230	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2231	4822 122 32082	CAP.CHIP	4,7PF	5%	50V
2232	5322 122 33869	CAP.CHIP	15PF	5% NP0	63V
2233	5322 122 32658	CAP.CHIP	22PF	5%	50V
2240	5322 122 32654	CAP.CHIP	22NF	10% X7R	63V
2241	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2241	4822 121 51354	CAP.FOIL	1NF	10%	
2251	4822 122 32566	CAP.CHIP	3,9NF	10% X7R	63V
2252	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2253	5322 122 32654	CAP.CHIP	22NF	10% X7R	63V
2254	4822 122 33608	CAP.CHIP	39NF	10% X7R	63V
2255	4822 121 43711	CAP.FOIL	470NF	10%	100V
2256	5322 122 32654	CAP.CHIP	22NF	10% X7R	63V
2257	4822 124 23281	ELCAP	33UF	20%	16V
2258	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2259	4822 124 80453	ELCAP	100UF	20%	10V
2263	4822 051 20008	RES.CHIP	JMPR		
2301...					
2306	4822 124 23282	ELCAP	1UF	20%	50V
2307	4822 124 23279	ELCAP	22UF	20%	16V
2308	4822 124 23582	ELCAP	220UF		10V
2309	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2310	4822 124 23504	ELCAP	2,2UF	20%	50V
2311	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2312	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2313	4822 122 32916	CAP.CHIP	220NF	10% X7R	63V
2314	4822 122 32627	CAP.CERAMIC	2,7NF	10% X7R	50V
2315	4822 124 23504	ELCAP	2,2UF	20%	50V
2316	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2317	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2318	4822 122 32916	CAP.CHIP	220NF	10% X7R	63V
2319	4822 122 32627	CAP.CERAMIC	2,7NF	10% X7R	50V
2351	4822 124 80726	ELCAP	2,2UF	20%	50V
2352	4822 124 80813	ELCAP	10UF	20%	16V
2353	4822 124 80726	ELCAP	2,2UF	20%	50V
2354	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2355	4822 124 80724	ELCAP	47UF	20%	10V
2356	4822 124 23504	ELCAP	2,2UF	20%	50V
2357	4822 124 80726	ELCAP	2,2UF	20%	50V
2361	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2401	4822 124 23504	ELCAP	2,2UF	20%	50V
2402	4822 124 23504	ELCAP	2,2UF	20%	50V
2403	4822 124 41017	ELCAP	10UF		16V
2404	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2405	4822 122 33218	CAP.CHIP	820PF	10% X7R	
2406	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2407	4822 122 33216	CAP.CHIP	270PF	5% NP0	50V
2408	4822 124 22646	ELCAP	47UF	20%	16V
2409	4822 124 23504	ELCAP	2,2UF	20%	50V
2410	5322 122 31946	CAP.CHIP	27PF	10%	50V
2411	5322 122 31946	CAP.CHIP	27PF	10%	50V
2412	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2414	4822 124 23504	ELCAP	2,2UF	20%	50V
2420...					
2424	5322 122 33538	CAP.CHIP	150PF	2% NP0	63V
2425	5322 122 32448	CAP.CERAMIC	10PF	5%	50V
2426	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2427	4822 122 32614	CAP.CERAMIC	1,2NF	10% X7R	50V
2428	5322 122 31865	CAP.CHIP	1,5NF	10% X7R	63V
2429	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2430	4822 124 23401	ELCAP	4,7UF	20%	25V
2431	4822 124 41017	ELCAP	10UF		16V
2432	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2433	5322 122 32654	CAP.CHIP	22NF	10% X7R	63V
2434	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2435	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2601	4822 124 23282	ELCAP	1UF	20%	50V
2602	5322 122 32531	CAP.CHIP	100PF	5% NP0	50V
2605	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2606	4822 124 23281	ELCAP	33UF	20%	16V
2607	5322 122 32268	CAP.CHIP	470PF	10%	50V
2608	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2610	4822 124 23279	ELCAP	22UF	20%	16V
2611	4822 124 23282	ELCAP	1UF	20%	50V
2612	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2613	4822 122 32916	CAP.CHIP	220NF	10% X7R	63V
2614	5322 122 32654	CAP.CHIP	22NF	10% X7R	63V
2615	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2616	5322 122 32268	CAP.CHIP	470PF	10%	50V
2617	5322 122 33538	CAP.CHIP	150PF	2% NP0	63V
2617	5322 122 32531	CAP.CHIP	100PF		
2618	5322 122 31866	CAP.CHIP	6,8NF	10% X7R	63V
2619	5322 122 31866	CAP.CHIP	6,8NF	10% X7R	63V
2620	5322 122 32531	CAP.CHIP	100PF	5% NP0	50V
2621	5322 122 32531	CAP.CHIP	100PF	5% NP0	50V
2622	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2626	4822 122 33216	CAP.CHIP	270PF	5% NP0	50V
2661	4822 124 23504	ELCAP	2,2UF		
2662	4822 122 33178	CAP.CHIP	1NF		
2663	4822 124 22646	ELCAP	47UF		
2664	4822 124 23504	ELCAP	2,2NF		
2665	4822 122 33178	CAP.CHIP	1NF		
2701	4822 124 23281	ELCAP	33UF	20%	16V
2702	4822 124 41017	ELCAP	10UF		16V
2704	4822 124 23282	ELCAP	1UF	20%	50V
2705	4822 124 23281	ELCAP	33UF	20%	16V
2706	4822 124 23281	ELCAP	33UF	20%	16V
2707	4822 124 41017	ELCAP	10UF		16V
2708	4822 124 41017	ELCAP	10UF		16V
2709	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2710	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2711	4822 124 23282	ELCAP	1UF	20%	50V
2712	4822 124 80815	ELCAP	470UF	20%	16V
2713	4822 124 41017	ELCAP	10UF		16V
2714	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2715	4822 124 80725	ELCAP	1UF	20%	50V
2716	4822 124 42409	ELCAP	2200UF	20%	16V
2717...					
2719	4822 122 32566	CAP.CHIP	3,9NF	10% X7R	63V
2720	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2721	5322 122 31866	CAP.CHIP	6,8NF	10% X7R	63V
2730	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2731	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2732	4822 124 23504	ELCAP	2,2UF	20%	50V
2741	4822 124 80814	ELCAP	33UF	20%	16V
2750	4822 122 32566	CAP.CHIP	3,9NF	10% X7R	63V
2751	4822 124 42409	ELCAP	2200UF	20%	16V
2752	4822 122 32566	CAP.CHIP	3,9NF	10% X7R	63V
2755...					
2758	4822 124 23281	ELCAP	33UF	20%	16V
2763	4822 124 23282	ELCAP	1UF		
2764	4822 122 33177	CAP.CHIP	10NF		
2765...					
2768	4822 122 32566	CAP.CHIP	3,9NF	10% X7R	63V
2795	4822 124 23255	ELCAP	100UF		16V
2901	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2902	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2903	4822 122 33342	CAP.CHIP	33NF	10% X7R	63V
2904	4822 122 33342	CAP.CHIP	33NF	10% X7R	63V
2905	4822 124 41017	ELCAP	10UF		16V
2911	5322 122 32268	CAP.CHIP	470PF	10%	50V
2913	5322 122 32965	CAP.CERAMIC	18PF	5% NPO	50V
2914	5322 122 32661	CAP.CHIP	56PF	5%	50V
2915	4822 124 41017	ELCAP	10UF		16V
2916	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2917	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V
2918...					
2920	4822 122 33177	CAP.CHIP	10NF	20% X7R	50V
2924	4822 122 33178	CAP.CHIP	1NF	20% X7R	50V
2927	4822 122 33496	CAP.CHIP	100NF	10% X7R	63V

RESISTORS

3101	4822 051 20478	RES.CHIP	4R70	5%	0,1W
3102	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3103	4822 051 20221	RES.CHIP	220R00	5%	0,1W
3105	4822 100 11163	POTM.TRIMMER	100K	30%LIN	0,1W
3106	4822 051 20478	RES.CHIP	4R70	5%	0,1W
3109	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3201	4822 051 20561	RES.CHIP	560R00	5%	0,1W
3202	4822 051 20471	RES.CHIP	470R00	5%	0,1W
3205	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3206	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3207	4822 051 20223	RES.CHIP	22K00	5%	0,1W
3208	4822 051 20333	RES.CHIP	33K00	5%	0,1W
3230	4822 051 20224	RES.CHIP	220K00	5%	0,1W
3231	4822 051 20152	RES.CHIP	1K50	5%	0,1W
3232	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3240	4822 051 20472	RES.CHIP	4K70	5%	0,1W
3241	4822 051 20224	RES.CHIP	220K00	5%	0,1W
3253	4822 051 20472	RES.CHIP	4K70	5%	0,1W
3256	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3257	4822 051 20008	RES.CHIP	0R00	JUMP.	(0805)
3258	4822 051 20008	RES.CHIP	0R00	JUMP.	(0805)
3301	4822 051 20332	RES.CHIP	3K30	5%	0,1W
3302	4822 051 20332	RES.CHIP	3K30	5%	0,1W
3307...					
3310	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3351	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3354	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3355	4822 116 30426	RES.N.T.C.	4K7	3%	0,1W
3356	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3401	4822 051 20683	RES.CHIP	68K00	5%	0,1W
3402	4822 051 20223	RES.CHIP	22K00	5%	0,1W
3403	4822 051 20225	RES.CHIP	2M20	5%	0,1W
3404	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3405	4822 051 20304	RES.CHIP	300K00	5%	0,1W
3406	4822 051 20221	RES.CHIP	220R00	5%	0,1W
3420	4822 051 20183	RES.CHIP	18K00	5%	0,1W
3426	4822 100 11163	POTM.TRIMMER	100K	30%LIN	0,1W
3433	4822 051 20332	RES.CHIP	3K30	5%	0,1W
3434	4822 051 20332	RES.CHIP	3K30	5%	0,1W
3435	4822 051 20561	RES.CHIP	560R00	5%	0,1W
3436	4822 051 20332	RES.CHIP	3K30	5%	0,1W
3437	4822 051 20683	RES.CHIP	68K00	5%	0,1W
3602	4822 051 20471	RES.CHIP	470R00	5%	0,1W
3603	4822 051 20334	RES.CHIP	330K00	5%	0,1W
3604	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3605	4822 051 20224	RES.CHIP	220K00	5%	0,1W
3606	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3607	4822 051 20823	RES.CHIP	82K00	5%	0,1W
3608	4822 100 12071	POTM.	EVNDXAA03B25		
3609	4822 051 20471	RES.CHIP	470R00	5%	0,1W
3610	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3611	4822 051 20152	RES.CHIP	1K50	5%	0,1W
3612	4822 051 20123	RES.CHIP	12K00		
3613	4822 051 20008	RES.CHIP	0R00	JUMP.	(0805)
3614	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3615	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3616	4822 051 20109	RES.CHIP	10R00	5%	0,1W
3617	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3619	4822 051 20154	RES.CHIP	150K00	5%	0,1W
3621	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3622	4822 051 20824	RES.CHIP	820K00	5%	0,1W
3623	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3624	4822 051 20474	RES.CHIP	470K00	5%	0,1W
3625	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3626	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3627	4822 051 20682	RES.CHIP	6K80		
3627	4822 051 20222	RES.CHIP	2K20	5%	0,1W
3630	4822 100 11681	MODULE	1K	30%	0,1W
3635	4822 051 20225	RES.CHIP	2M20	5%	0,1W
3636	4822 051 20225	RES.CHIP	2M20	5%	0,1W
3638	4822 051 20823	RES.CHIP	82K00	5%	0,1W
3641	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3642	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3661	4822 051 20683	RES.CHIP	68K00		
3662	4822 051 20683	RES.CHIP	68K00		
3663	4822 051 20121	RES.CHIP	120R00		
3664	4822 051 20332	RES.CHIP	3K30		
3665	4822 051 20332	RES.CHIP	3K30		
3666	4822 051 20683	RES.CHIP	68K00		
3667	4822 051 20683	RES.CHIP	68K00		
3668	4822 051 20223	RES.CHIP	22K00		
3669	4822 051 20121	RES.CHIP	120R00		
3670	4822 051 20332	RES.CHIP	3K30		
3671	4822 051 20332	RES.CHIP	3K30		
3675	4822 051 20123	RES.CHIP	12K00		
3676	4822 051 20152	RES.CHIP	1K50		
3677	4822 051 20332	RES.CHIP	3K30		
3678	4822 051 20123	RES.CHIP	12K00		
3679	4822 051 20152	RES.CHIP	1K50		
3680	4822 051 20332	RES.CHIP	3K30		
3704	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3705	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3706	4822 051 10273	RES.CHIP	27K00	2%	0,25W
3707...					
3709	4822 116 52227	RES.METAL FILM	620E	5%	0,5W
3712	4822 116 52176	RES.METAL FILM	10E	5%	0,5W
3713	4822 051 10154	RES.CHIP	150K00	2%	0,25W
3714...					
3717	4822 051 20224	RES.CHIP	220K00	5%	0,1W
3718	4822 051 20222	RES.CHIP	2K20	5%	0,1W
3721	4822 051 20123	RES.CHIP	12K00	5%	0,1W
3723	4822 051 20224	RES.CHIP	220K00	5%	0,1W
3730	4822 051 20823	RES.CHIP	82K00	5%	0,1W
3731	4822 051 20224	RES.CHIP	220K00	5%	0,1W
3732	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3733	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3734	4822 116 52176	RES.METAL FILM	10E	5%	0,5W
3735	4822 051 20123	RES.CHIP	12K00	5%	0,1W
3736	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3741	4822 116 52176	RES.METAL FILM	10E	5%	0,5W
3742	4822 116 52195	RES.METAL FILM	47E	5%	0,5W
3743	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3744	4822 116 52224	RES.METAL FILM	470E	5%	0,5W
3745	4822 051 20273	RES.CHIP	27K00	5%	0,1W
3746...					
3749	4822 051 20182	RES.CHIP	1K80	5%	0,1W
3750	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3751	5322 116 81256	RES.METAL FILM	1K0	1%	0,25W
3752	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3753	4822 051 20222	RES.CHIP	2K20	5%	0,1W
3755	4822 051 20332	RES.CHIP	3K30		
3756	4822 051 20332	RES.CHIP	3K30		
3757	4822 051 20822	RES.CHIP	8K20		
3758	4822 051 20822	RES.CHIP	8K20		
3766	4822 051 20102	RES.CHIP	1K00		
3767	4822 051 20121	RES.CHIP	120R00		
3772	4822 116 40221	RES.P.T.C.	60G31AR8R2MT2		
3773	4822 116 40221	RES.P.T.C.	60G31AR8R2MT2		
3781	4822 116 81155	RES.METAL FILM	3R9	5%	0,5W
3786	4822 051 20333	RES.CHIP	33K00	5%	0,1W
3788	4822 116 52184	RES.METAL FILM	18E	5%	0,5W
3790	4822 051 20472	RES.CHIP	4K70	5%	0,1W
3791	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3794	4822 116 52176	RES.METAL FILM	10E	5%	0,5W
3795	4822 116 52188	RES.METAL FILM	27R00		
3795	4822 050 12709	RES.METAL FILM	27R00	1%	0,4W
3809...					
3819	4822 051 20123	RES.CHIP	12K00	5%	0,1W
3825	4822 051 20154	RES.CHIP	150K00	5%	0,1W
3828	4822 051 20154	RES.CHIP	150K00	5%	0,1W
3902...					
3904	4822 051 20153	RES.CHIP	15K00	5%	0,1W
3906...					
3910	4822 051 20102	RES.CHIP	1K00	5%	0,1W
3913	4822 051 20153	RES.CHIP	15K00	5%	0,1W
3915	4822 051 20101	RES.CHIP	100R00	5%	0,1W
3916	4822 051 20153	RES.CHIP	15K00	5%	0,1W
3919	4822 051 20153	RES.CHIP	15K00	5%	0,1W
3922...					
3924	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3925	4822 051 20153	RES.CHIP	15K00	5%	0,1W
3926	4822 051 20473	RES.CHIP	47K00	5%	0,1W
3927	4822 051 20104	RES.CHIP	100K00	5%	0,1W
3951	4822 051 20153	RES.CHIP	15K00	5%	0,1W

JUMPERS

4101...					
4909	4822 051 20008	RES.CHIP	0R00	JUMP.	(0805)

COILS

5201	4822 152 20678	COIL	33UH		
5202...					
5205	4822 152 20677	COIL	10MUH		
5206	4822 157 52983	COIL	22UH	10%	
5207	4822 157 50975	COIL	1MH		
5208	4822 157 52983	COIL	22UH	10%	
5210	4822 152 20683	COIL	ADJ.28MUH		
5228	4822 156 31021	COIL	ADJ.1,22UH		
5230	4822 157 53575	COIL	3,3UH		
5231	4822 157 50975	COIL	1MH		
5232	4822 152 20677	COIL	10MUH		
5251	4822 157 50975	COIL	1MH		
5252	4822 152 20678	COIL	33UH		
5402	4822 152 20678	COIL	33UH		
5700	4822 157 50975	COIL	1MH		
5701	4822 157 53669	COIL ASSY	POWER SUPPLY		
5702...					
5916	4822 152 20677	COIL	10MUH		

DIODES

6221	4822 130 82982	DIODE	BB512
6230	5322 130 34337	DIODE,CHIP	BAV99
6301	4822 130 30621	DIODE	1N4148
6351	4822 130 30621	DIODE	1N4148
6420	5322 130 34337	DIODE,CHIP	BAV99
6430	5322 130 34337	DIODE,CHIP	BAV99
6602	4822 130 30621	DIODE	1N4148
6661	4822 130 30621	DIODE	1N4148
6703	4822 130 81196	RECTIFIER	S5566B
6704	4822 130 30621	DIODE	1N4148
6705	4822 130 82465	DIODE	1.5KE27P
6706	4822 130 81196	RECTIFIER	S5566B
6710...			
6732	4822 130 30621	DIODE	1N4148
6733	4822 130 81196	RECTIFIER	S5566B
6750	4822 130 80954	DIODE,REF.	BZV55-C5V6
6751	4822 130 30621	DIODE	1N4148
6764	4822 130 32904	DIODE	BZV85-C5V6
6765	4822 130 32904	DIODE	BZV85-C5V6
6781...			
6783	4822 130 30621	DIODE	1N4148
6801	4822 130 82981	LED	LO-K380Q
6802...			
6816	4822 130 83573	LED	K370N
6817	4822 130 82981	LED	LO-K380Q
6904	4822 130 30621	DIODE	1N4148
6905	5322 130 34337	DIODE,CHIP	BAV99

TRANSISTORS AND IC's

7201	4822 209 72247	IC	TEA6200/V2
7230	4822 130 62495	TRANS.	2SK507F
7251	4822 209 30858	IC	TSA6057/C1
7252	4822 130 42705	TRANS.CHIP	BC847
7301	4822 209 32995	IC	TDA7313/
7302	5322 209 14542	IC	HEF4066BT
7303	4822 130 42705	TRANS.CHIP	BC847
7351	4822 209 31132	IC	TDA7374V
7401	4822 209 83159	IC	LA2000
7403	4822 209 31644	IC	TDA7330
7420	4822 209 32742	IC	TL074IN
7421	4822 130 42705	TRANS.CHIP	BC847
7601	4822 209 30859	IC	TDA1591/V3
7602...			
7606	4822 130 42705	TRANS.CHIP	BC847
7661	4822 130 42353	TRANS.	BFS19
7662	4822 130 42353	TRANS.	BFS19
7675	4822 130 61233	TRANS.	BC857
7676	4822 130 61233	TRANS.	BC857
7701	4822 209 31373	IC	L4949
7702	4822 209 72227	IC	L4916
7703	4822 209 80891	IC	MC7805CT
7704	4822 130 61233	TRANS.CHIP	BC857
7705	4822 209 72227	IC	L4916
7706	4822 130 40995	TRANS.	BD438
7708	4822 130 42705	TRANS.CHIP	BC847
7709	4822 130 42705	TRANS.CHIP	BC847
7710	4822 130 61233	TRANS.CHIP	BC857
7711	4822 130 61233	TRANS.CHIP	BC857
7712	4822 130 42705	TRANS.CHIP	BC847
7713	4822 130 42705	TRANS.CHIP	BC847
7714	4822 130 42705	TRANS.CHIP	BC847
7716	4822 130 60511	TRANS.CHIP	BC847B
7731	4822 209 63544	IC	TC7S00F
7752	4822 130 42705	TRANS.CHIP	BC847
7755...			
7758	4822 130 42615	TRANS.CHIP	BC817-40
7761	4822 209 32743	IC	MSM6307GS-VK
7781	4822 209 62059	IC	TCA0372DP1
7783	4822 130 61233	TRANS.CHIP	BC857
7795	4822 130 42615	TRANS.CHIP	BC817-40
7841	4822 209 33076	µC TMP47C820F-811F-04	
7911	4822 209 12619	IC P83CE558EFB MASK RC1	
7913	4822 130 42705	TRANS.CHIP	BC847

Service
Service
Service

22DC811/00R
22DC821/00R
5101

Service Information

1. The exchange procedure for complete sets is no longer valid. Repairs of faults belonging to the set can now be done in your service shop. The hints on the backside can maybe help you in some cases.
Because of some intermittend effects with sets built with RC 1 we recommend to update these radios to RC 2. Use IC 4822 209 33973 on pos. 7911.
For other changes and modifications of the sets see also Service Newsletters from issue 1994-W 02 onwards.

2. For the DCC tapedecks use the CENTRAL REPAIR PROCEDURE of Philips Consumer Service from now on.
Information about this procedure (same as for CD deck CMX200) you can get from

Mr. Cor Lieberwirth
Philips Consumer Electronics B.V.
Philips Consumer Service
Beukenlaan 2, Building SBP 5
5600 MD Eindhoven
The Netherlands

All sets 22DC811 and 22DC821 have a DCC deck with software RC26 (4822 691 21024). This decks will gradually be replaced by RC27 - versions (4822 691 10442) in service stock of Consumer Service Eindhoven.
A sticker on the backside of the digital print shows the version:

DCC DA26	RC26 (OTP)
DCC DA26-077	RC26 (MASK)
DCC DA27	RC27 (OTP)
DCC DA27-077	RC27 (MASK)

RC27 deck software is only usable with radio software RC2 !
22DC811 and 22DC821 sets with RC1 must get a software update to RC2 when a RC27 deck will be installed !
Use also the insulation cover 4822 423 41288 to protect the flex foil against damage and the control PWB against short circuit with the frame ! (see Service Manual 22DC822)

When 22DC811 is updated to RC2 it will show some different behaviour:
1. **After Power on DCC821 appears instead of DCC811**
2. **During volume adjustment VOL XX appears in the display**
3. **BLEEP is disabled (solder a wire between pins 16 and 26 of Main processor to enable BLEEP again)**

4822 725 23525

PHILIPS

COMPLAINT, SET RELATED	REASON	SOLUTION IN PRODUCTION	SERVICE SOLUTION
No function/obscure behaviour	Set with OTP-IC, software crash	Only mask programmed IC's used	Change OTP into mask (see Service Newsletter 1994-W 02)
	EEPROM defect	Check incoming goods	Send set to Wetzlar for new programming
Switch off by itself, RDS mutes	Wrong value of chip capacitor pos.2911	Value changed into 33 nF	Change pos.2911 into 33 nF (see Service Newsletter 1994-W 02)
No sound	TDA7374 defect, wrong speaker connection	Sticker added on retrac	Exchange TDA 7374, inform customer
No function, no display	Bad soldered frontconnector	Better check	Solder all pins
COMPLAINT, DECK RELATED			
Deck no function, no insert possible	Fixing hook of pivot plate broken	Hook changed in production	Exchange deck
	Hang out of loading, burr at locking lever	Locking lever modified in production	Exchange deck
	Servomotor loose, bracket broken	Modification of bracket	Exchange deck
	Loading sticks at guiding rod	Guiding rod changed in production	Exchange deck
	Cassette retainer of carrier/lift assy out of shape	Modification of retainer	Exchange carrier/lift assy
	Control PWB defect	Check incoming goods	Exchange control PWB
Drift + Flutter	Pivot plate not greased	Capstan bearing greased separately	Grease bearing
DCC interruptions, TAPE displayed while DCC	Flex foil at control PWB broken	Mounting of PWB changed in production	Exchange control PWB
DCC and/or analog cassette no playback	Head dirty		Clean head, ask customer for regular cleaning Exchange head, new alignments necessary (see Manual)
No sound from tape deck	Audio PWB defect	Check incoming goods	Exchange PWB, new alignments necessary (see Manual)
No DCC playback when warm	Bad adjustment of capstan	Better check	Exchange deck
No or bad sound from DCC	Digital/DAC PWB defect	Check incoming goods	Exchange PWB, new alignments necessary (see Manual)
Cassette jammed	Carrier/lift and lift rod jammed	Improvement of carrier/lift assy	Exchange carrier/lift assy